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DIESEL RAILWAY TRACTION

A Supplement illustrating and describing developments in Diesel Railway Traction is presented with every copy of this week's issue

D.G.T.M.

LAST week we recorded the appointment of Monsieur Raoul Dautry as Minister of Armaments to the French Government, and expressed the feeling of confidence this news gave to those who were aware of Monsieur Dautry's unique gifts. Shortly after that announcement, the appointment was made of Mr. Gilbert S. Szlumper, General Manager of the Southern Railway, to be Director-General of Transportation & Movements at the War Office, and all British railwaymen will feel a sense of encouragement that our own Government should have been no less happily inspired in filling a vitally important post. Mr. Szlumper's ability, first for a period of over 12 years as Assistant General Manager of the Southern Railway, and then for the past two years as its General Manager, has been evidenced by the contemporaneous and well-merited rise in the public estimation of that railway's services; and of course before that Mr. Szlumper had held important positions, including that of Docks & Marine Manager, on the Southern Railway. The combination of engineer, administrator, and soldier, which, together with the ability to get the best out of all those who serve under him, are Mr. Szlumper's great assets, will assure the efficient discharge of the duties over which he has now been selected to preside.

Southern Railway Management

Although the official announcement of the Southern Railway states that the selection of Mr. Szlumper for the post of Director-General of Transportation & Movements was made with the fullest approval of the Southern Railway board of directors, it is obvious that this approval was actuated by the highest motives of patriotism, as the railway ultimately concerned with the embarkation of the vast majority of British troops leaving these shores, would not wish to lose the services of its able General Manager. In addition to patriotism, however, the directors were fortunate in being able to feel that they had at their disposal the services of Mr. E. J. Missenden, who has been entrusted with the responsibilities of being both General Manager and Traffic Manager during Mr. Szlumper's absence from the railway. This confidence of the Southern Railway board is expressed in the official announcement, which includes the three-fold tribute to Mr. Missenden of referring to his many years of railway service, to his operating and docks experience, and to the outstanding ability with which he has carried out his heavy responsibilities. Mr. Missenden served for three years as Docks & Marine Manager, Southern Railway, and this experience will not be the least important of the many qualities with which he enters into his wider sphere of responsibility. The Southern Railway directors add in their official statement that Mr. J. B. Elliot, who has most successfully carried out his duties as Assistant General Manager, is appointed Deputy General Manager.

* * *

Four Months' Passenger Traffic

The recently-issued Ministry of Transport statistics for April show that passenger train receipts in the first four months of 1939 were £19,969,480, a decrease of £433,432 or 2.12 per cent. in comparison with the first four months of 1938. Except in the case of workmen and of third class season tickets the decline in receipts was general, and for the most part the decrease in April was proportionately greater than in the first three months. Total receipts from passengers, exclusive of season ticket holders, during the four months, amounted to £12,906,001, a decrease of £314,494 or 2.38 per cent. In the first class ordinary receipts of £1,170,551 there was a drop of £39,338 or 3.25 per cent., and third class ordinary passengers, apart from workmen, brought in £10,141,529, a decrease of £308,217 or 2.95 per cent. Against the fall of £28,115 in the first class season ticket revenue of £576,056 may be set the advance of £14,505 shown by the third class season ticket revenue of £2,464,339. Parcels and miscellaneous passenger train receipts brought in £4,023,035, a decrease of £105,327 or 2.55 per cent. Standard fare, day and half-day excursion, and monthly return passenger numbers and receipts were all down, but there was a slight improvement in week-end numbers and receipts.

* * *

Transport in Nigeria

The report for the year 1938 on the Transport Directorate of Nigeria is signed by Mr. G. V. O. Bulkeley, who retires this month from the post of Director of Transport, which he has held since 1936. This report is quite distinct from the annual reports of the Nigerian Railway which cover the twelve months ending March 31. As the report shows, the Transport Directorate is not a department, but an entity in which one technical officer combines executive, consultative, advisory, and co-ordinating duties. All forms of transport, including railway, road, river, and air are reviewed, and it is mentioned that camel, packhorse and donkey, canoe, and head carrier still have their place in the transport economy of Nigeria.

and will continue to do so. Railway development has been rapid during its forty years of existence in Nigeria and has now reached a total length of 1903 miles. With the probable exception of the Bornu Province in the north, no further railway extension is in sight. In the course of his report the Director points out that the ideal of rate control under inspected maintenance and statutory labour conditions in respect of all forms of transport is not yet fully practicable in Nigeria. At the same time he lays it down as axiomatic that it is to the general interest of the taxpayer that a State railway shall balance its budget and set aside something in reserve.

* * * *

South African Railway Finances in 1938-39

The following preliminary figures have now been received as indicating the financial position of the South African Railways & Harbours during the year ended March 31, 1939. After meeting all working expenses, including interest, but excluding appropriations from net revenue, the results of working all services were as follow:—

	Revenue	Expenditure (including interest on capital)	Surplus (+) or Deficit (—)
	£	£	£
Railways ..	36,177,090	32,692,659	+ 3,484,431
Harbours ..	1,967,898	1,541,848	+ 426,050
Steamships ..	153,156	148,111	+ 5,045
Airways ..	234,948	560,492	— 325,544
	38,533,092	34,943,110	+ 3,589,982

In pursuance of the policy adopted in recent years of utilising operating surpluses for consolidating the financial position of the railways, special appropriations amounting to £3,707,879 in the aggregate were made from revenue and credited to the various funds, resulting in a short fall on the year's working of £117,897; this has been carried forward in the accounts for the current financial year. The principal appropriations included a £1,000,000 contribution to Betterment Fund; a special contribution to Renewals Fund of £1,000,000; and the writing of sundry items totalling £770,879 out of capital account. The satisfactory position has continued during the months of April and May also, the accounts for these two months revealing a gross surplus of £513,992; appropriations totalling £347,833 were made, leaving a net surplus of £166,159.

* * * *

Price Increase in Wartime

When the rearmament programme was started in 1936 the Federation of British Industries announced its intention of giving its support in ensuring that the needs of the country should be met efficiently and economically. The then Prime Minister, referring to the matter in Parliament, took it as the basis for his assurance that industry as a whole had no desire to exploit the situation. The federation now recalls this and in a letter the President, Mr. Peter F. Bennett, has addressed recently to Mr. Chamberlain, it is recorded that those assurances were loyally implemented. Now that we are at war, says Mr. Bennett, it is more than ever realised that unreasonable increases in prices are against the national interest. Moreover it is against the interests of industry itself that such increases should take place, since industry is not only a producer but also an immense consumer of industrial products and raw materials. It is also realised that if prices are increased beyond what may be justified by cost, Government would rightly be forced by public opinion to intervene, as otherwise inflation, with all its attendant

evils, would follow. The federation is in close contact with the Board of Trade with regard to the incidence of the War Risks Insurance Act and other conditions which may directly or indirectly affect prices.

* * * *

Refreshment En Route

During the war of 1914-19, despite the general withdrawal of restaurant cars from British train services during the later stages of the conflict, the Midland and Great Central Railways continued until the end of the war to provide restaurant car accommodation on all their principal trains without interruption. Simplified meals were served, and the cars were staffed largely by women. In this connection a correspondent suggests that the complete withdrawal of restaurant cars in the present emergency may be a measure a little more drastic than war conditions as yet demand. One solution at least of the present difficulty would be to provide buffet cars on the principal trains. Of these useful vehicles the G.W.R. has sufficient to provide for numerous services, and the L.N.E.R. has so large a stock as probably to be able, by loan, to supply L.M.S.R. needs as well as its own; the Southern, also, is well furnished with suitable cars. The cars could, if necessary, be staffed by female labour, and the service of snack boxes (an admirable substitute for a restaurant car, but in present conditions not always obtainable), sandwiches, and light refreshments of various kinds together with tea and mineral waters, would be appreciated by those who are still compelled to travel.

* * * *

Signalling on a Metre-Gauge Railway

The paper read on behalf of the author, Mr. H. C. Towers, Signal Engineer, Metre-Gauge Lines, Bombay, Baroda & Central India Railway, before the Institution of Railway Signal Engineers on May 17, gave a general account of the leading features of signalling practice on those lines, with details of signal department organisation and maintenance methods. Descriptive papers such as this, although not affording perhaps quite the same opportunity for critical discussion as do others dealing with special aspects of signalling work, design, and so on, have nevertheless a value all their own, providing information of a wider appeal and useful to operating officers as much as to signal engineers. It is always interesting to see how local conditions affect the trend of practice and necessitate the use of particular equipment. In India, for example, much use has to be made of stationmasters' control and key interlocking mechanism. Descriptive papers, too, are valuable as putting on record what has been done and providing a helpful fund of reference. We are publishing on page 430 the first instalment of an abridgment of Mr. Towers's paper.

* * * *

Wasteful Coaling of Locomotives

It is sometimes asserted that a serious amount of waste occurs in the coaling of locomotives, and that this waste is unavoidable. It is said to be supplemented in some degree by overloading, so that when the locomotive is in service coal is lost by rolling off the tender. The complaint is made regardless of the method of refuelling, and the modern coaling plants are said to be uneconomical on account of the disintegration of the coal in falling and consequent losses, in the shape of slack and dust, that must occur. Another point sometimes raised is that the system of charging coal to engines, or in other words keeping a tally of the amount placed on the tender, is defective owing to the discrepancy between the figures

of coal actually loaded and those representing the quantity handled, during a given period, by the plant as a whole. It is doubtful whether in point of fact any of these contentions amounts to anything very serious from the point of view of economy, but at the same time the desirability of keeping an accurate check on the coal supplied to locomotives both individually and collectively is not to be denied. It was for this purpose that the L.M.S.R. in its motive power reorganisation scheme, described in THE RAILWAY GAZETTE of April, 1937, introduced at its principal running sheds where mechanical coaling apparatus was installed, mechanism for accurately recording the amount of coal delivered to a locomotive and the number of the engine itself, as well of for spraying water on the coal to prevent dust. These operations are under the control of the driver or fireman at the shed.

* * * *

Safety of Netherlands Railways

Some figures showing the remarkably high standard of safety achieved by the railways of the Netherlands, in common with those of the other principal European countries, are given by Mr. S. A. Reitsma, Editor of our contemporary *Spoor- en Tramwegen*, in the railway centenary issue of that journal recently published. Mr. Reitsma, who has long carried on a campaign against the extraordinary public indifference to loss of life on the roads, has been at some trouble to investigate the statistics covering the Dutch railways from their inception a hundred years ago down to the end of 1938, with the following results:—

Passengers		Servants		Other persons	
Killed	Injured	Killed	Injured	Killed	Injured
256	1,400	1,239	2,874	1,554	1,394

These accidents cover all causes, including individual carelessness, and even the most trifling injuries. Passengers killed thus come to about 2.5 a year, and the figure would be better but for one very bad fatal accident in 1918. The accidents occurring to other persons were mostly at level crossings, and nearly all could have been avoided by taking reasonable care. The total number of persons killed during the hundred years that railways have been in existence in Holland is less than now occurs in four years on the roads, while the number of injured is only one-third of that produced in a twelvemonth by street traffic.

* * * *

Timetable Language

The partial eclipse, occasioned by the war, of restaurant car services, reminds us of the sad fate lately undergone by that congenial vehicle in being represented in timetables only by the bald, standardised symbol, "RC." Previously the words were at least spelt out in full, even if not embroidered. We remember one railway which until quite recently proudly printed "luncheon, tea, and dining car express" in its timetable columns, while we need go back only a few months to find the gratifying plural, "restaurant cars" in the Midland Division tables of the L.M.S.R. In some cases the old descriptions linger on surprisingly. A few weeks ago we noticed a departure indicator at Manchester Central station describing an express to Marylebone, L.N.E.R., as a "corridor restaurant car train"; this insistence on the corridor, sounding somewhat strangely in these days, could be seen as recently as in the July "Bradshaw," where the 10.0 a.m. from Bradford to Marylebone was still shown in the Bradford—Penistone (L.M.S.R.) table as a "through corridor express." It must be a persistent echo of that old Great Central boast, "each express is vestibuled, and has a buffet car attached."

The G.W.R. Emergency Timetable

THE institution of war train services suggests comparison not only with the normal winter services, but also with the passenger services in Great Britain as they were towards the end of the last war. The radical difference between 1939 and 1918 is that whereas in the previous war, years of gradual reduction and deceleration ushered in the final stage of reduced service, which was reached in the early part of 1918, in 1939 there has been an immediate transition from full facilities to an even more severe curtailment than the maximum of 1918. The Great Western Railway has the distinction of being the first of the four main line railways to issue a public war timetable. This came into operation on Monday, September 25, and the new book (price sixpence) was on sale to the public last week. A table accompanying the present article sets out a comparison of main-line train services between Paddington and seven important G.W.R. provincial cities and towns in October, 1918, October, 1938, and October, 1939, respectively. The table gives first the times of the fastest trains in either direction, then the number of daily express services, and finally the average journey time of the latter, with the deceleration from the normal to the wartime winter service, which is seen to range in speed from 16 to 37 per cent., with an average of 29 per cent., to conform to a standard average speed of 45 m.p.h. The number of trains available (up and down trains have been added together for the purpose of these statistics) has been reduced from 23 to 43 per cent., with an average of 33 per cent. This means, roughly, that both frequency and speed have been reduced by an average of one-third. All G.W.R. restaurant and sleeping cars have been withdrawn.

It will be noted that, with the exception of the Paddington—Cardiff service, of which the present speed equals that of the 1918 war timetable, and the Paddington—Worcester service, now 21 min. faster, all the services are slower, the fastest time to and from Plymouth, in particular, being 45 min. slower than that of 1918, and 1 hr. 40 min. slower than that of 1938, while the average times similarly are 47 min. slower than 1918 and 1 hr. 42 min. slower than 1938. One reason for the substantial deceleration to and from Plymouth and Penzance is that no day trains now use the Westbury route, all the West of England services being over the Bristol route, which is 20 miles longer, and involves stops at Chippenham, Bath and Bristol. The only regular weekday express using the Westbury line* is now the 1.15 a.m. night train from Paddington to Penzance, which also, incidentally, now makes the longest non-stop run on the G.W.R. system—Paddington—Taunton, 142.7 miles, in 3 hr. 5 min., at 46.3 m.p.h. This speed of 45 to 47 m.p.h. from start to stop is the limit in the new emergency timetable, and compares with a normal fastest schedule of 71.4 m.p.h. (the Cheltenham Flyer). In this respect the new timetable is considerably more drastic in its slowing down than that of the latter part of 1918, when, for example, the modified down Cornishman ran the 95.6 miles from Paddington to Westbury in 107 min., at 53.6 m.p.h., and there were other schedules up to 54.4 m.p.h. in speed, at a time when the fastest normal booking was at 59.2 m.p.h. As a result of its higher booked speed, and of taking the Westbury route, the 10.15 a.m. down in 1918 reached Plymouth North Road at 3.15 p.m., whereas the present 10.30 a.m. from Paddington is not due in Plymouth till 4.40 p.m.; normally the 10.30 a.m. Cornish Riviera Limited reaches Plymouth at 2.35 p.m. As far as possible, departures from Paddington in the new timetable have been retained at times to which passengers are accustomed, as 10.30 a.m., 1.15, 4.15, and 6.30 p.m. to

Bristol and the West of England, 8.55 a.m., 1.55, 5.55, and 7.55 p.m. to South Wales, and 9.10 a.m., 2.10 and 6.10 p.m. to Birmingham and the North, but the considerable gaps in this list, as compared with normal departures, are obvious. Thus the 10.30 a.m. must carry the passengers previously using the 10.0 a.m. Bristolian, 10.30 a.m. Cornish Riviera Limited, and 11.15 a.m. to Bristol and Weston-super-Mare; the 1.15 p.m. incorporates the 12 noon Torbay Limited, the 1.15 p.m. to Bristol and Weston, and the 1.40 p.m. to Penzance; and the 4.15 p.m. combines the 3.30 p.m. to Plymouth, the 4.15 p.m. to Bristol, and the 5.5 p.m. to Plymouth, and correspondingly in the up direction. Among curious effects of the reorganisation is that a station like Chippenham gets a service to and from Paddington not far short of normal, for owing to diversion of the West of England expresses from the Westbury route, although certain Weymouth trains still travel *via* Newbury, a number of previous Weymouth connections are now made at Chippenham, West of England expresses being stopped for the purpose. In the emergency timetable fourteen daily services between Paddington and Chippenham average 2 hr. 20 min. in journey, as against sixteen trains averaging 1 hr. 59 min. normally.

As regards cross-country trains, the service between Birmingham and the West of England *via* Stratford-on-Avon and Cheltenham, as well as that between Birmingham and South Wales by the same route, is entirely suspended. The North to West service *via* Shrewsbury and Hereford is cut down to one day, one evening, and one night train in each direction connecting the L.M.S.R. main line at Crewe with Bristol and the West of England. The Birmingham and South Wales service is maintained by way of Malvern and Hereford. All through services to and from the Southern Railway *via* Basingstoke, *via* Reading, and *via* Salisbury have been suspended, as well as those to and from the L.N.E.R. *via* Banbury, with the exception of one L.N.E.R. night service in each direction, which works to and from Swindon. In contrast to the main-line curtailments, very little alteration has been made to the normal London suburban services. Until after about 7 p.m., these are practically normal, with a minor amount of slowing down of trains running the longer distances to the outer suburban area. Reading still has most of its excellent non-stop service to and from Paddington, though here the travelling time has been increased from the 39 and 40 min. of the normal timetable to a general figure of 47 min. for the 36 miles. In 1918 the time allowed was 43 min. On the country branches, although certain cancellations have been made, and the times of other trains have been altered to connect with the altered times of main-line trains, services in general are well maintained, and the normal times of the majority of the trains, especially those radiating from the various cities like Birmingham,

* On Sundays the 11.35 a.m., from Penzance to Paddington runs *via* Westbury to maintain the service from Weymouth and the Berks and Hants line to London.

G.W.R. EMERGENCY MAIN-LINE TIME-TABLE, OCTOBER, 1939

FASTEST AND AVERAGE TIMES AND FREQUENCY OF SERVICE BETWEEN PADDINGTON AND VARIOUS PROVINCIAL CENTRES IN 1918, 1938, AND 1939

London and :—	Distance	Fastest Time			No. of Trains Daily			Average Time			Average Deceleration	
		Oct., 1918	Oct., 1938	Oct., 1939	Oct., 1918	Oct., 1938	Oct., 1939	Oct., 1918	Oct., 1938	Oct., 1939	1938-1939	
	miles	h. m.	h. m.	h. m.				h. m.	h. m.	h. m.	h. m.	per cent.
Oxford	63.5	1 18	1 00	1 28	14	26	20	1 30	1 20	1 39	0 19	24
Birmingham ..	110.6	2 30	2 00	2 33	10	14	8	2 46	2 05	2 51	0 46	37
Bristol	118.3	2 15	1 45	2 35	16	20	14	2 45	2 15	2 58	0 43	32
Worcester	120.4	3 06	2 10	3 06	8	12	8	3 41	2 37	3 20	0 43	27
Cardiff	145.1	3 10	2 41	3 15	10	14	8	3 23	2 55	3 23	0 28	16
Plymouth (N'th Rd.)	225.5*	5 00	4 05	5 45	8	12	9	5 39	4 44	6 26	1 42	36
Penzance	305.0†	7 55	6 30	8 35	6	9	6	9 11	7 18	9 35	2 17	31

* *Via* Bristol, 245.9 miles, in 1939.

† *Via* Bristol, 325.4 miles, in 1939.

ham, Wolverhampton, Bristol, Cardiff, Newport, and Plymouth, have been very little altered. The reduction of branch services may be taken to average not more than 10 to 20 per cent. of the trains, and of local and suburban services (except the later evening trains, greatly reduced in number), from 5 to 10 per cent.

Letter to the Editor

(The Editor is not responsible for the opinions of correspondents)

Carrying On

Hamilton House, E.C.4

September 21

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—To answer the question "what are Callender's doing in the present emergency," we enclose for your information an official statement which you are invited to make use of in any way you may desire.

Incidentally, you will be interested to know that for the time being we have no intention of discontinuing or reducing our advertisement contracts in electrical or other trade journals, as this company has no desire to contribute in any way to loss of employment in the printing and allied industries.

We hope to continue sending items of information for your editorial pages so far as circumstances will permit, and trust that the pleasant relations hitherto existing between us will be maintained "for the duration" and after.

Yours faithfully,

Callender's Cable & Construction Co. Ltd.,

D. G. DENOON,

Publicity Manager

[The official statement to which Mr. Denoon refers, is included in our news columns at page 446.—ED. R.G.]

HARDNESS NUMBERS.—The British Standards Institution has just issued a table of approximate comparisons of hardness numbers, B.S. No. 860. At present the most widely employed methods of measuring hardness are the Brinell, diamond pyramid, and Rockwell tests, and there has been a general demand for some means of correlating the most used A, B and C scales of the Rockwell test with those of the Brinell and diamond pyramid tests. Investigations show that there can be no general theoretical relationships between these scales and it is emphasised that the table is at the best a general approximation. The diamond pyramid scale has been taken as the basis of reference and the most probable comparative values adopted from published experimental results. Copies of this B.S. table can be obtained from the British Standards Institution, 28, Victoria Street, London, S.W.1. (Price 2s. 2d. post free.)

PUBLICATIONS RECEIVED

University of Illinois Bulletins.—The following bulletins have been issued by the University of Illinois, Urbana:—

No. 76: "Papers Presented at the Second Conference on Air Conditioning, March 8 and 9, 1939." Price 50 cents.

No. 81: "The Surface Tensions of Molten Glass." By Cullen W. Parmelee and Cameron G. Harman. Price 55 cents.

No. 86: "Papers Presented at the Twenty-sixth Annual Conference on Highway Engineering, March 1-3, 1939." Price 50 cents.

Modern Engineering.—With this title, the well-known firm of Tangyes Limited, Birmingham, has issued a new publication which comprehensively illustrates and describes the firm's very large range of products. This small work is not intended to be an all-embracing volume covering all the activities of the concern, but rather to convey an idea of the progress and modernity of its manufactures as they are at the present time. The subject matter dealt with in the publication covers hydrau-

lics, power presses, pumps, engines, machine tools, lifting tackle, carriage equipment and general engineering, and under each of these headings there appear illustrations of the plant associated therewith together with explanatory text. A feature of this publication is the excellence of the illustrations and text, a high-class tinted paper being used throughout.

A High-Speed Cutting Alloy.—We have received from Alfred Herbert Limited, of Coventry, a copy of a new edition of the Ardaly booklet, containing much useful information regarding the properties and uses of this now well known high-speed cutting alloy, which is made by the British Thomson-Houston Co. Ltd. at its Rugby works. It is capable of cutting steel, cast iron, and non-ferrous metals at extremely high speeds and it will also cut freely materials which hitherto have been looked upon as incapable of being machined except by diamond cutting tools. Ardaly is supplied either in the form of

tipped tools or as separate tips, and both of these are listed in the catalogue. Eight grades of the material are made to suit various requirements. The catalogue is copiously illustrated and a considerable amount of tabulated information is contained within its 88 pages.

Relay Interlocking.—"The A.B.C. of Westinghouse Relay Interlocking" is the title of a new booklet brought out by the Westinghouse Brake & Signal Co. Ltd., of York Way, N.1. After giving a short introduction on the principles and application of relay interlocking, it goes on to describe and illustrate installations and components of installations, the initial letters of which are the successive letters of the alphabet, as, for instance, "C" for control panels and "G" for Goole Bridge signal box. Even "X" finds its way in; it stands for the "unknown quantity," which "is absent from all Westinghouse systems." In this way the booklet presents so much useful information on its subject that it might with equal truth, indeed, be called "Relay Interlocking from A to Z."

THE SCRAP HEAP

U.S.A. railroad taxes in 1938 were nearly \$100,000,000 greater than the total expenditures of the railroads during that year on fuel.

* * *

War begets poverty,
Poverty peace.
Peace begets riches,
Fate will not cease.
Riches beget pride
Pride is war's ground.
War begets poverty,
And so the world goes round.

* * *

"Some people," said Mrs. Gamp, . . . "may be Rooshans, and others may be Prooshans; they are born so, and will please themselves. Them which is of other nations thinks different."—*Charles Dickens; "Martin Chuzzlewit."*

* * *

THE PLEASURES OF TUBE TRAVEL

In his presidential address to the British Association at Dundee, Sir Albert Seward, the distinguished geologist, said that travellers in the London tube railway might derive pleasure from the knowledge that they were being conveyed through a stiff clay upraised from the floor of an ancient sea.

However prehistorically minded we may be, nevertheless, the pleasure will always be more acute on the second half of the journey.—*The Evening News.*

BLACK-OUT DIALOGUE

Night, Waterloo—a blue-black cavern. Passenger steps out of the blackness into the still blacker blackness of the railway carriage. After a few moments second passenger enters and is also swallowed up in oblivion. Silence within, right until Clapham Junction gives clanging, banging notice that it is a junction.

1st P. (at length risking conversational shot): "Dark."

2nd P.: "Very." (Long pause.) It is hard talking to the unseeable.

1st P. (making another effort): "Fancy three years of this."

2nd P.: "Gosh! Yes. Fancy it."

After another interval, but shorter.

1st P.: "Suppose it will go three years."

2nd P.: "Suppose so. War Cabinet says so."

1st P. (suddenly animating the dark with a shout): "You'll pardon me, but your voice is familiar. You're not —?"

2nd P.: "You'll pardon me, but I am, and you're —? Well! Bless my soul! And how's the wife? Don't see you round at the 'local' now."

A porter's head moves, a blacker blot against the black background of the Wimbledon night—"Surbiton! Claygate! Oxshott!"

From "The Manchester Guardian."

* * *

"999"

In reply to Mr. J. MORGAN (Doncaster, Lab.)

SIR E. GRIGG, Parliamentary Secretary to the Ministry of Information (Altrincham, U.), said:—The total staff employed at the headquarters of the Ministry of Information number 872, and in the Regional offices 127. (Loud cries of "Oh!") The number of

journalists actually engaged in that profession at the time of their appointment is 26 at headquarters—(laughter)—and 17 in the Regional offices. In addition, there are in the News Division 48 officers who were appointed because of their familiarity with the Press relation work of Government Departments or the B.B.C., combined in many cases with previous journalistic or broadcasting experience. (Renewed laughter.)

Mr. J. MORGAN.—Will the Minister kindly take note of the concern of this House at the statement which he has just made—(cheers)—and will he offer us at some early date some more satisfactory explanation of this proportion of officials as against professional people in this Ministry? (Cheers and cries of "Sack the lot.")

SIR E. GRIGG.—My noble friend recognizes that the situation requires investigation. (Laughter.)

Mr. DAVIDSON.—It requires evacuation. (Laughter.)

From "The Times" Parliamentary Report, September 27.

* * *

Overheard from one railway official to another:—

"Are you Deepdown?"

"No, Deepdene."

* * *

Bob, a black and white mongrel, who lives near the country headquarters of the L.M.S.R., has developed a passion for travel. When he sees buses going to and from the railway headquarters to the station, he jumps on board to get a free ride, and makes as many as 20 journeys a day. If there is a vacant seat he takes it. If there isn't one, he shows no reluctance to sitting on a typist's knee.

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

BRAZIL

Paulista Railway in 1938

At the annual general meeting of this railway it was announced that the year 1938 had been the most satisfactory in the history of the company. When the report of the year's working was read, it was revealed that receipts for the year amounted to 140,475 contos and that expenses were 90,027 contos, leaving a balance of 50,448 contos to be added to the balance brought forward from 1937, thus making a total balance of 66,448 contos. After deducting 39,591 contos for dividends (9 per cent. for the year) 5,100 contos interest on and amortisation of external debt; 2,587 contos for the staff pension fund; 356 contos for the reserve fund; and 2,619 contos for forest services, a total of 16,195 contos was carried forward to 1939. The capital at charge was shown to be 454,183 contos apart from the product of a special fund amounting to 116,143 contos, which had been used for various works and improvements.

The principal traffics compared with those in 1937 were as follow:—

	1937	1938
Passengers ..	5,793,787	5,819,410*
Animals ..	632,365	529,501
Parcels, tons ..	90,255	94,535
Coffee, tons ..	543,996	719,682
Other goods, tons ..	2,534,808	2,643,143
Ton-km. ..	683,049,778	734,069,582

* In addition, 22,830 immigrants with baggage were carried free during the year.

The railway's foreign debt still stood at \$2,513,500, which was what remained of the \$4,000,000 debt contracted in the United States in 1922. Due to restrictions on exchange and the Government control of remittances, it had not been possible to make any payment of interest on this debt during 1938, but with the tendency to liberate exchange as indicated by Decree No. 1201 of April 3, 1939, it was hoped that payment might be resumed at an early date. The total set aside for amortisation, however, now amounted to 116,225 contos. The improvements and traffic expansions fund totalled 25,200 contos, and the reserve fund amounted to 10,181 contos, while the forest services fund stood at 12,199 contos.

In March and September calls were made for the payment of the first and second instalments of 20 and 15 per cent. respectively of the 1937 share capital issue in accordance with the terms of the prospectus, and the amount subscribed amounted to 16,661 contos.

The total route-length of the system remained unaltered at 1,151 km., of which 44 km. were double track.

Construction and Open Line Works

On the Agudos extension the bridges and other structures on the Pompeia-Tupã section had been completed, earth-

work was in progress and platelaying and the erection of the telegraph line had begun from the Pompeia end. All the culverts on the section of the Itirapina-Bauru line between Jahú and the left bank of the Tieté river had been completed and earthwork was in hand. The reinforced concrete bridge over that river was begun in July. The joining up of the Paulista lines with those of the E. de Ferro do Dourado at Jahú was completed in the course of the year.

Work on the swamp bordering the left bank of the River Paraguay in the State of Matto Grosso, and at the shops at Tres Lagôas had been completed, and also continued on the deviation between Nogueira and Araribá, and on the stone ballasting of the trunk line.

New Fruit Wagons

In order to insure adequate transport for the increasing quantities of oranges for export, a total of 250 42-ton wagons and a further 130 of 30 tons capacity had been purchased during the year.

The North Western Railway Improvements Society, controlled by the Paulista Railway in accordance with a contract with the Federal Government dated August 18, 1934, had fulfilled all its contractual obligations.

The Forest Services Department had the care of 16 forests at different points on the system with a total of 16,000,000 eucalyptus trees planted.

CANADA

Refrigerator and Heated Freight Cars

The Fruit and Vegetable Division, Dominion Department of Agriculture, has been closely associated with the provision of a balanced measure of heat in cars during long journeys in winter. The railway refrigerator car now in general use is heavily insulated in walls, floors, ceilings, and ends, with ice bunkers at both ends, running the width of the car; the total ice capacity of these bunkers is approximately 8,100 lb. In loading, ample provision must be made for the circulation of air in the car whether it be moving under refrigeration in summer or heat in winter. In heating cars in winter, Canadian railways during the past few years have been gradually equipping their cars with what is known as the underslung heater; approximately 260 of these cars are in service at present. Also during summer months they have been experimenting with refrigerator cars equipped with roof ice tanks in lieu of the end bunkers or tanks. This method of car refrigeration overcomes the difficulty with end-bunker refrigeration that highest temperatures invariably prevail at the top-load level. A further improvement is the installation of what are known as liquidometers by which the air temperature inside the

car may be ascertained, the results being read from dials placed outside the car.

For experimental purposes a complete picture of the temperatures inside the car may also be obtained with electrical resistance thermometers, the property of the Fruit and Vegetable Division. The set consists of master cables, approximately 11 ft. long, to which may be connected a maximum of twelve resistance thermometers. They may be placed in air positions or buried in the fruit at any point in the car or any storage plant, and can be read from the outside of the car or room. This equipment has been used in the principal car refrigeration and heating experiments in recent years over the two principal Canadian railways.

WESTERN AUSTRALIA

Enlarging Bridge at Mount Lawley

The widening of Guildford Road underbridge at Mount Lawley, two miles from Perth on the main eastern line, is nearing completion. The roadway through this subway is a main traffic artery serving the suburbs and outer districts east of Perth, and carries a single line of tramway. The span of the original bridge was only 30 ft., including a pedestrian footway, and it is being widened to 52 ft., with a double line of tramway, two vehicular roadways and two 6-ft. footways, at an estimated cost of £15,000, of which half is to be provided from Government funds and half from metropolitan traffic fees. The work is being carried out by the Railway Department.

The whole of the steelwork has been prepared by the Railway Department, to the design of the Chief Civil Engineer, Mr. S. J. Hood, and fabricated at the railway workshops, Midland Junction. Three steel girders are being used, and these are by far the largest of their kind built in Western Australia. The whole of the steel used is of Australian manufacture.

Spray Cleaning of Locomotives

The cleaning of engines by the use of a hot water spray has recently been introduced at the principal locomotive depots in Western Australia. By means of a simple hose attachment to the delivery end of the standard locomotive injector of an engine in steam, heated water is delivered and transformed into a spray through the hose nozzle. This system has been found effective in removing grease and is easy of application to engines standing in steam; cold engines in the vicinity can also be washed in a similar way from the one in steam.

As a result of this method cleaning of engines has been more effective, giving a better appearance and revealing weaknesses in certain parts, which previously went undetected owing to accumulations of grease and dirt through their being in positions inac-

cessible to the ordinary methods of hand cleaning.

Washaways

After comparatively long freedom from serious trouble on account of washaways, 1939 has proved a costly year for the Western Australian Railways in this respect. After the cyclonic disturbances of January last, which caused widespread damage in the northern and eastern goldfields, and particularly at Port Hedland and Kalgoorlie, abnormal winter rains during June and July have washed out lines and dislocated railway services over a wide area.

On the northern railway system heavy rains towards the end of June and again in July caused the line to be inundated at several places, disorganising train services between Perth and the Murchison goldfields and also the port of Geraldton, 300 miles north of Perth. Again, in July, abnormal rains in the southern and south-western districts brought further trouble in these areas.

Considerable delay to passengers and goods, and other inconveniences have been caused by the trouble, though the department has done everything possible to minimise the effect of the washaways. Where alternative routes have been available, traffic has been diverted, and repairs have been rapidly effected. Passengers delayed by the floods have been provided with meals and sleeping berths where necessary. One redeeming feature is that in the Southern Districts water supplies which in some places had been very low, have been completely replenished, and the danger of any water shortage has been removed for some time to come.

Incidentally, the rainfall recorded for the three months May-June-July, 1939, in the City of Perth was 3,013 points compared with an average for the period of 1,881 points. The rainfall for this year is a record, the previous highest aggregate for the three months referred to being 2,645 points which fell between May 1 and July 31, 1917. During July of this year the total rainfall reached 1,118 points, a figure which has only been exceeded in that month three times in previous years, namely 1926 and 1917.

NEW SOUTH WALES

New Railway Constructions

Four new lines are at present under construction, the longest of which will be that from Sandy Hollow to Maryvale, 125 miles, and the second longest that from Bungendore to Captain's Flat, 21 miles. The Sandy Hollow-Maryvale connection will link the existing northern and western lines and bring the western portion of the State within the influence of the port of Newcastle. A bulk wheat silo has been constructed at this port and wool sales also are conducted there. In addition to effecting a measure of decentralisa-

tion, this line is regarded as having a defensive value, as it gives an alternative route between southern and northern districts of the State. As the Great Dividing Range has to be crossed, heavy earthworks are necessary, and the construction will entail the driving of five tunnels—one of them $1\frac{1}{2}$ miles in length, which will be the longest in Australia—and the provision of many bridges. To cater for the additional traffic expected, arrangements are being made to strengthen the existing railway between Sandy Hollow and Muswellbrook.

The Bungendore-Captain's Flat railway is being laid down to assist development at the latter place, where there are large deposits of crude ores containing lead, zinc, copper, silver, and gold. Under agreement with the company working the deposits, conveyance of the ores will be restricted to rail transport over the new line and over the existing line between Bungendore and Port Kembla, one of the most important industrial centres in the State. The country traversed is mountainous, and in this case also heavy earthworks are necessary.

The third of the lines under construction runs from Sutherland to Cronulla. Cronulla is one of the most popular seaside resorts in the State, and was originally served by tram from Sutherland. From Sydney to Sutherland the service is by electric train and the extension to Cronulla will also be worked by electric traction. The new construction will be six miles in length and the area traversed will be served by five new stations. The illustration on page 437 indicates the type of station being erected. As the traffic expected will be for the most part passenger, it has been decided that heavier than ordinary grades are to be permitted

and the ruling grade in consequence will be 1 in 40.

The fourth of the construction works in hand is in the City of Sydney. At the present time the underground electric railway ends at St. James station on the eastern side. Wynyard low level station on the western side is also a dead end. By constructing a length of double track 1 mile 29 ch. long via the Circular Quay these two stations will be linked. During peak hours the existing tracks at both St. James and Wynyard low level stations are very heavily taxed, and the completion of the loop will give much-needed relief in working the traffic. A modern railway station is being provided at Circular Quay, and a roadway will be built over the railway tracks at Circular Quay to serve road traffic to the northern and eastern suburbs. For the erection of the station and viaducts more than 50 caissons will need to be sunk for the foundation work.

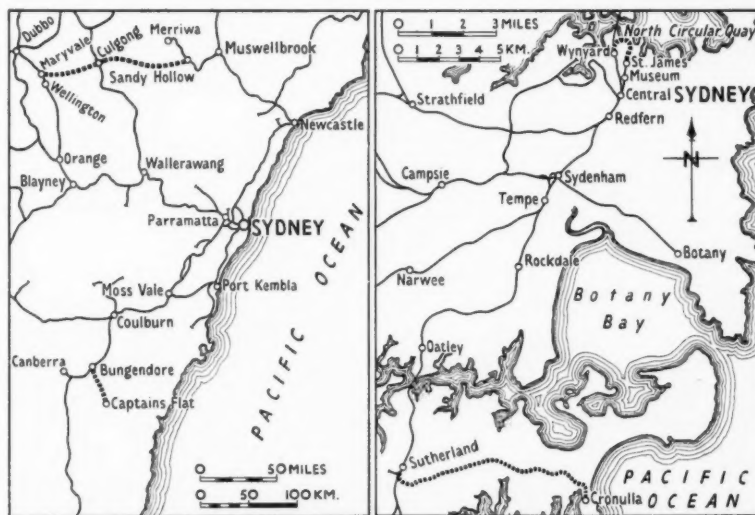
SPAIN

Arsenal to Repair Locomotives

Four locomotives have been sent for general repairs to the arsenal at Cartagena, by order of the administration of the State Railways. The locomotives are from the Murcia-Caravaca and Cartagena-La Union Railways. The decision is welcomed as giving employment to redundant staff in the arsenal, and assisting railway workshops to overtake arrears.

Madrid-Algeciras Express Service

The authorities, chamber of commerce, and other entities, of Algeciras, have petitioned the Minister of Public Works, asking for the reinstatement of the express train between Algeciras and Bobadilla Junction, thus restoring the



Sketch maps showing four new lines under construction in New South Wales; (left) Sandy Hollow to Maryvale, and Bungendore to Captain's Flat; also (right) Sutherland to Cronulla, and St. James to Wynyard, in the City of Sydney

direct connection with Madrid, and facilitating communications, not only with the busy port of Algeciras, but with Morocco.

Directing Council for State Railways

A Ministerial Order of August 22, published in the *Boletín Oficial* of August 26, authorises the appointment of a directing council for the administration and operation of the railways worked by the State, on the same lines as the directing councils constituted recently for the principal railway systems, and described in THE RAILWAY GAZETTE of June 9, 1939, on page 929. The new Directing Council will also deal with the question of financial advances to railway companies in difficult economic circumstances, and will intervene in the taking over of such lines as may have been abandoned by their concessionaires.

DENMARK

Deraiment of Copenhagen-Gedser Express

The night express from Copenhagen to Gedser was derailed a short distance beyond Fiskbæk station—between Nykøbing Falster and Gedser—on the night of September 8-9 after having run into two horses that had strayed on the track at a private crossing. Owing to the international situation the connection with Berlin and Hamburg had already been suspended, and the train therefore consisted only of a "C" class 4-4-0 engine and tender, a composite passenger bogie carriage, and a luggage van. The locomotive was derailed, but continued along the sleepers for some 100-200 yards, before turning completely round, facing the opposite direction, and finally rolled down the low embankment and capsized. The driver and the fireman were both killed. The passenger carriage was partly derailed with the front bogie down the slope, but came to rest with the trailing bogie still on the rails. As it was of all-steel construction, the body was not damaged, and none of the 11 passengers nor the guard was seriously injured; the luggage van did not leave the road. The line, which is single, was blocked, and traffic was carried on by motor bus.

The Winter Timetable

Owing to the probable difficulty in obtaining sufficient supplies of fuel in the near future, passenger traffic has been cut down by about 25 per cent. The principal withdrawals are the international trains and steamer connections.

[These were given in some detail on page 411 in our issue of September 22—Ed. R.G.] Many of the Lyntog services have had their runs shortened as well as having their speeds reduced. The Copenhagen—Malmö train ferries are now allowed 15 min. more than before, and the special motorcar ferries are withdrawn from the Helsingør—

Helsingborg and the Great Belt routes. In the Copenhagen suburban area there is no alteration in the rush-hour traffic, but at other times every third train is withdrawn on the Holte and Klampenborg lines, and the Frederiksberg—Hellerup line has only one train an hour instead of three. On the secondary lines, in particular, the train service has been cut down severely, and the numerous private railways have reduced their winter timetables drastically. The privately-owned steamer service between Frederikshavn and Gothenburg is closed, and on the Hirtshals—Kristiansand steamer route one of the two round trips is suspended.

The State Railways in 1938-39

Although the traffic on the Danish State Railways increased during the year ended March 31, 1939, the net earnings were lower than those of the previous year, the net deficit of the working having increased from Kr. 500,000 to Kr. 4,500,000. The following table gives some of the operating figures:—

	1937-38	1938-39
Length of line open, km.	2,554	2,553
Passengers (millions) ...	55.0	56.5
Goods, tonnes (millions) ...	5.12	5.17
Train kilometres (millions) ...	29.53	30.06
Operating ratio ...	100.4	103.6
	Million	Million
Passenger traffic receipts	Kr. 60.6	Kr. 63.4
Goods " " " "	51.1	51.0
Bus " " " "	4.6	4.9
Other receipts ...	7.6	6.8
Gross receipts ...	123.9	126.1
Working expenditure ...	124.4	130.6
Net deficit ...	0.5	4.5
Depreciation charges ...	6.9	6.9
Interest on capital ...	13.1	14.2
Deficit after meeting financial charges ...	20.5	25.6

There was a general increase in the number of passengers carried amounting to 2.7 per cent., and the passenger receipts increased by 4.5 per cent. Although the increase in the number of passengers has hitherto mainly been due to the electrification of the Copenhagen suburban traffic, this does not account for any important increase this year. The increase is general and spread over all sorts of travel. First class passengers were 1.2 per cent. of the total number. Goods traffic receipts fell from Kr. 51,100,000 to Kr. 51,000,000.

Working expenditure rose by 5 per cent., due to higher cost of living allowances to staff, higher prices for fuel and increase in train and bus mileage. The number of staff rose from 21,134 to 21,501. Passenger train-km. increased from 21,728,400 to 22,400,500 and goods train-km. from 4,207,300 to 4,345,200, but mixed train-km. fell from 2,301,900 to 1,983,600. Of the train-km. 17,809,900 (59.3 per cent.) were worked by steam trains, 10,015,000 (33.3 per cent.) by diesel or petrol railcars or trains; and 2,233,200 (7.4 per cent.) by electric trains.

Ferries and steamers covered 868,700 km. and carried 5,183,482 carriage and wagon axles and 247,831 motor cars. The bus routes had a total length of

2,986 km. against 2,872 km. the previous year. The 222 buses carried 5,172,100 passengers against 4,684,849 the year before.

INDIA

Railway Accounts

The preliminary report on the experiment recommended by the Public Accounts Committee last year of placing the Chief Accounts Officers and their establishments under the control of the General Managers on two railways was placed before the committee. The new system, it was noted, had led to the increased utilisation of the services of the Chief Accounts Officer as the Financial Advisor of a railway administration. At the same time, the committee was inclined to agree with the Auditor General's view that, if the accounts branch was to play its proper part in the administration, it was essential that the conditions of service of the accounts staff should leave it free to maintain a critical, though impartial, attitude both in financial cases and in the exercise of internal checking of accounts. As the experiment had been in full operation for only a few months, the committee asked for a final report on its working next year, and desired that any defects in administrative procedure which militated against the observance of the condition mentioned by the Auditor General should be removed.

The committee was pleased to note that the Central Standards Office had given an impetus to Indian industry, and by that means had helped to effect a reduction in the stores balance on Class I railways.

Railway Board's Control

Another matter reported to the committee related to the control of the maintenance of standards, safety, and amenities on the company-managed railways. It was stated that the Railway Board was satisfied that the control exercised by it was sufficient to prevent the deterioration of the standards of maintenance of such railways, and that a close watch was kept over the provision of amenities through Government Inspectors.

Capital Outlay

It was communicated to the Public Accounts Committee that new capital expenditure had almost entirely ceased where it was unquestionably unremunerative. The return on the capital outlay on residential buildings was, admittedly, low, and the Railway Board was considering measures which were likely, if not to improve, at least to prevent deterioration in the existing returns; the introduction of the new lower scales of pay was likely to make the position worse. The question of adjustments necessary on the abandonment of projects was discussed at length. In view of the intricate issues involved, the committee recommended a re-examination of the existing practice.

BRITISH RAILWAY STATISTICS

"The Railway Gazette" monthly table for April, 1939, as compared with April, 1938, compiled from the Ministry of Transport Statement No. 233

Description	Great Britain*	G.W.R.	L.N.E.R.	L.M.S.R.	S.R.
PASSENGER TRAIN TRAFFIC—					
Number of pass. journeys (ex. season ticket holders)	101,402,089	7,130,018	13,954,590	23,555,361	18,534,925
Increase (+) or decrease (—)	2,892,231	231,433	605,733	1,092,050	64,299
Passenger receipts (excluding season ticket holders)	£4,630,228	£631,345	£919,195	£1,456,761	£1,036,618
Increase (+) or decrease (—)	£218,945	£19,169	£61,900	£105,002	£18,087
Season ticket receipts	£868,171	£48,527	£145,398	£215,465	£310,685
Increase (+) or decrease (—)	£10,741	£1,333	£3,114	£1,592	£12,475
Parcels and misc. traffic receipts (excluding parcels post)	£1,049,510	£193,178	£317,124	£391,116	£128,329
Increase (+) or decrease (—)	£24,729	£5,467	£9,484	£18,650	£8,338
FREIGHT TRAIN TRAFFIC—					
Freight traffic (tons) (excluding free-hauled)	22,962,676	5,733,487	10,451,449	10,457,684	1,167,365
Increase (+) or decrease (—)	2,777,979	1,057,450	1,032,268	1,051,188	92,585
Net ton-miles (excluding free-hauled)	1,345,376,327	265,063,898	449,118,469	540,838,776	52,539,406
Increase (+) or decrease (—)	168,068,909	54,567,498	40,936,782	61,171,124	4,751,092
Average length of haul (miles) (excluding free-hauled)	58.59	46.23	42.97	51.72	45.01
Increase (+) or decrease (—)	0.26	1.21	0.37	0.73	0.55
Freight traffic receipts	£7,554,029	£1,355,000	£2,479,381	£3,106,000	£377,930
Increase (+) or decrease (—)	£804,911	£237,000	£176,530	£343,000	£31,927
Receipts per ton-mile	1.348d.	1.23d.	1.33d.	1.38d.	1.73d.
Increase (+) or decrease (—)	0.028d.	0.05d.	0.03d.	—	0.01d.
Freight train-loads: Average train-load (tons)	132.58	141.20	135.96	130.22	102.94
Increase (+) or decrease (—)	8.38	15.37	6.61	6.90	2.14
Net ton-miles—					
Per train engine-hour	1,045.20	1,099.88	1,086.09	1,018.25	809.15
Increase (+) or decrease (—)	44.36	59.02	22.22	50.06	32.61
Per shunting-hour	952.44	863.96	1,053.38	991.81	583.07
Per total engine-hour	498.33	483.88	534.74	502.43	338.88
Net ton-miles per route-mile per working day	2,976	3,104	3,145	3,471	1,139
Increase (+) or decrease (—)	249	481	156	264	54
Wagon-miles. Total	379,520,425	71,617,693	134,586,066	155,262,682	17,699,228
Increase (+) or decrease (—)	41,119,643	10,767,443	13,820,541	14,828,488	1,679,757
Percentage of loaded to total	66.98	69.09	63.81	68.71	67.45
Wagons per train. Total	35.22	35.47	36.01	34.91	32.16
Increase (+) or decrease (—)	1.80	2.30	2.33	1.27	0.97
Loaded	23.59	24.51	22.98	23.99	21.69
Empty	11.63	10.96	13.03	10.92	10.47
Train-miles. Coaching—Per train-hour	15.33	14.16	14.32	14.52	18.52
Per engine-hour	12.41	11.30	11.11	11.25	15.89
Train miles. Freight—Per train-hour	9.30	9.46	9.32	9.22	9.60
Per engine-hour	3.76	3.45	3.98	3.85	3.25
Engine miles. Total	47,205,466	7,652,912	12,958,180	17,281,018	6,495,258
Increase (+) or decrease (—)	741,997	300,705	36,640	194,994	244,680
Mileage run by engines. Total train-miles—					
Coaching	23,681,084	3,183,668	5,317,948	7,572,837	4,936,033
Freight	10,774,247	2,018,895	3,737,697	4,447,569	550,430
Engine-hours in traffic. Total	4,978,998	893,475	1,491,496	1,908,255	498,656
Increase (+) or decrease (—)	135,334	61,107	25,312	38,215	6,778
Shunting miles per 100 train-miles—					
Coaching	7.26	7.03	6.61	7.56	8.33
Freight	69.60	81.35	63.54	65.34	92.20

Passenger Traffic Statistics: Number of journeys, receipts, and receipts per journey (excluding season ticket holders)—April, 1939

Subject	Great Britain	G.W.R.	L.N.E.R.	L.M.S.R.	S.R.	Cheshire Lines	Liverpool Overhead	L.P.T.B.†	Mersey
Full fares—									
Pass. journeys	31,749,525	622,578	882,194	1,285,903	2,830,823	13,025	153,312	25,101,931	84,318
Gross receipts	£882,394	£79,367	£110,321	£129,198	£195,003	£2,325	£1,611	£348,797	£1,462
Receipts per pass.	6.67d.	30.60d.	30.01d.	24.11d.	16.53d.	42.84d.	2.52d.	3.33d.	4.16d.
Reduced fares—									
Excursion and week-end—									
Pass. journeys	40,671,560	4,220,072	8,880,916	14,347,675	9,394,464	407,698	92,000	1,664,474	667,808
Gross receipts	£2,873,981	£439,143	£637,068	£1,061,091	£622,922	£27,598	£1,033	£37,255	£11,034
Receipts per pass. journey	16.96d.	24.97d.	17.22d.	17.75d.	15.91d.	16.25d.	2.69d.	5.37d.	3.97d.
Workmen—									
Pass. journeys	24,901,715	1,753,197	3,284,806	6,763,906	5,386,730	242,512	212,790	6,205,068	253,990
Gross receipts	£377,401	£27,180	£56,112	£113,522	£91,369	£4,259	£1,844	£70,862	£2,285
Receipts per pass. journey	3.64d.	3.72d.	4.10d.	4.03d.	4.07d.	4.21d.	2.08d.	2.74d.	2.16d.
Other—									
Pass. journeys	4,068,683	531,867	904,624	1,153,181	921,500	29,857	49,480	390,173	11,468
Gross receipts	£482,407	£82,798	£112,689	£146,432	£125,824	£3,789	£338	£3,917	£202
Receipts per pass. journey	28.46d.	37.36d.	29.90d.	30.48d.	32.77d.	30.46d.	1.64d.	2.41d.	4.23d.
Total—									
Pass. journeys	101,402,089	7,130,018	13,954,590	23,555,361	18,534,925	693,192	507,582	33,361,646	1,017,584
Gross receipts	£4,630,228	£631,345	£919,195	£1,456,761	£1,036,618	£38,075	£4,826	£460,831	£14,983
Receipts per pass.	10.96d.	21.25d.	15.81d.	14.84d.	13.42d.	13.18d.	2.28d.	3.32d.	3.53d.

* All standard gauge railways

† Includes passengers originating on the railway undertakings, and on the Whitechapel & Bow Joint Railway

SIGNALLING ON A METRE-GAUGE RAILWAY SYSTEM—I*

Interesting features of the signalling equipment on the metre-gauge lines of the Bombay, Baroda & Central India Railway include stationmaster's control apparatus and key interlocking

THE Bombay Baroda & Central India Railway has a total mileage of approximately 3,496; 1,259 miles being on the 5-ft. 6-in. gauge, 2,013 miles on the metre gauge, and 224 miles on the 2-ft. 6-in. gauge. The metre-gauge system starts at Ahmedabad and formerly existed as the Rajputana Malwa Railway, a separate company, retaining on this account some of its original features. Part of the metre-gauge administration is in Ajmer, with a Signal Department in charge of a Signal Engineer with two assistants.

Types of Signalling

Block signalling by Tyer's No. 7 tablet instruments is in use on most of the main line and branches; elsewhere a train wire (Morse) is used, authority to proceed being in the form of a paper "line clear." The systems of signalling and interlocking are :—

1. Crossing stations with stationmaster's electric slide controls	74
2. Fully track-circuited yards, with electric slots, route indicators, electrical detectors, &c.	2
3. Fully-interlocked stations with signal boxes; signals controlled by stationmaster's electric control	13
4. Stations signalled as in 3 above, but without electric controls	7
5. Stations completely interlocked by succession locking	22
6. Stations with succession locks on important points and platform lever frames controlling signals	159
7. Stations interlocked at one end only	4
8. Flag stations	42
Total stations	323

Signalling in India is governed by rules framed by the Railway Department of the Railway Board, and certain conditions have to be fulfilled to permit of trains running through stations at various speeds. Three standards of signalling are adopted, namely: (a) Standard I, 30 m.p.h.; (b) Standard II, 45 m.p.h.; and (c) Standard III, unrestricted speed. The metre-gauge single and double line stations are interlocked to Standard II. In 1927 the Railway Board issued orders that, at stations where trains were not booked to stop, the loop lines were to be isolated by derailing switches. A speed restriction of 10 m.p.h. was to be imposed if the work was not completed by a stated time. Various methods of revising the existing interlocking arrangements to incorporate the new trap points had to be considered. The average length of loops, from fouling mark to fouling mark, is approximately 1,800 to 2,000 ft. One of the points to be kept in mind was that the stationmaster must have control over the signals and points. The governing factor was the capital sanctioned to do the work and it was necessary to incorporate some of the existing interlocking. The final scheme, working satisfactorily for the past eight years, is shown in Fig. 1.

Crossing Station Signalling—Standard II

There are two home signals, with an outer and a warner in each direction, operated from a ten-lever elevated structure adjacent to the stationmaster's office, mechanically interlocked. Certain levers have Annett's locks, the

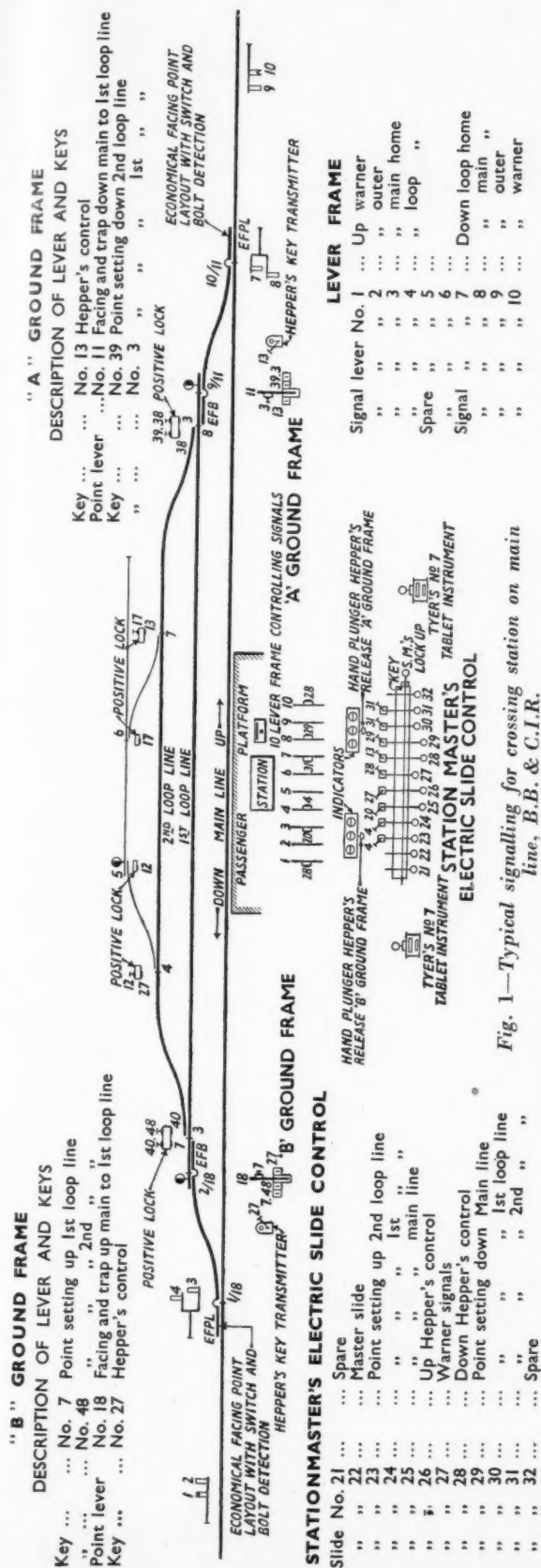
keys of which are kept in the stationmaster's slide control. Nos. 11 and 18 points are operated from a ground frame nearby and interlocked with that control. Annett's key locks are provided at the ground frames, interlocked with the lever and operating electrical contacts. The master key controlling the frame is locked up in a Hepper's electric key transmitter. The slide control has route-setting slides and a master slide for each direction, appropriately interlocked. Normally, with points set and locked for the main line, slides 25 and 29 are reversed (up and down main line points setting), as are also slides 26 and 28 (up and down Hepper control). Signals can now be lowered for the main line without any movement being performed other than the extraction of keys 20 or 29 to release the Annett locks on the up or down home signals 3 or 8. Only one key can be extracted at a time. If running-through signals are to be given, slide 27 is operated (warner signals) and key 28 extracted, backlocking that slide, the key being used in the Annett lock on levers 1 or 10 (up and down warners).

When an up train has stopped on the main line to cross a down, the stationmaster pushes slides 25, 26, 28 and 29 to normal and presses both plungers in the cases containing indicators marked "main line," "first loop" and "second loop" respectively, operating the main-line indicators and keeping them depressed until the indicators drop, showing that the pointsmen, previously sent out to the outermost points, have extracted the keys from the Hepper instruments. The Hepper key is operated in the master lock 27, unlocking point lever 18, which is reversed, releasing key 7 on the lever. This is then operated in the lock marked 7, backlocking the point lever and closing the electrical contact to the first loop wire going to the stationmaster's control. The operation of this key releases the Hepper key 27, the extraction of which locks up the whole frame. The key is inserted and turned once more in the electric key instrument.

In the meantime, having replaced slides 25, 26, 28 and 29 to normal, the stationmaster reverses 24 and 30. When the electric key transmitter is operated current flows to release the electric lock on the Hepper slide. Similar operations are performed at the ground frame at the other end of the yard. On slides 26 and 28 being reversed key 31 is released and this is sent to lever 7 to unlock the down loop home signal. In the case of trains being received into the second loop, on the reversal of lever 18, key 7 is taken to the positive lock on points 3, which unlocks them. When they are reversed and locked key 48 is released, locking those points, being operated in the token lock on the ground frame in a similar manner to key 7 for first loop setting.

The facing points are operated by an economical layout with switch and bolt detection. Signals cannot be lowered until the locking plunger has penetrated the split stretcher. The ground frames are situated about 100 yd. from the outermost points and connected up by standard rodding, so as to be opposite the second loop points, saving walking when the pointsman is taking the key from the ground frame to the lock on these points. Keys controlling the locks giving access to the goods sidings are released in the normal position of Hepper's slides 26 and

* Abridgment of paper read before the Institution of Railway Signal Engineers on May 17, 1939, on behalf of the author, Mr. H. C. Towers, A.M.I.E.E., A.M.Inst.T., Signal Engineer, metre-gauge lines, B.B. & C.I.R.



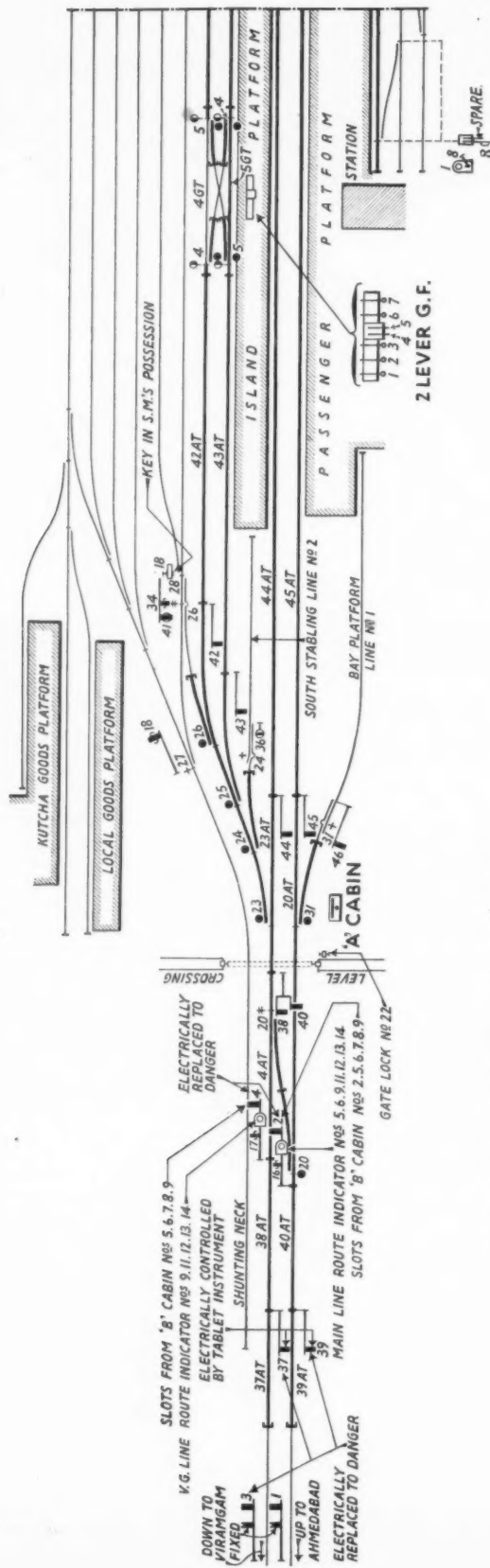
28. Although all points are free for shunting, signals cannot be lowered while either of these keys is out, as their extraction locks the slides normal. Each key is, of course, of a different type. The key transmitter, bell, relay and batteries adjoin the lever frame, each in a separate lock-up compartment, the key of that containing the transmitter being in the stationmaster's custody. A pole line connects the frames with the cabins, with standard galvanised iron wire on pin-type insulators, installed by the Government Telegraph Department and hired by the railway in the case of crossing stations, control and Morse lines. At other places pole lines have been constructed departmentally. The lead-in to the ground frames and stationmaster's office is usually armoured cable. All wiring from the poles to the instrument is the railway company's responsibility and installed by the Signal Department. There are 74 stations signalled in this manner on the metre-gauge system.

Signalling and Interlocking at Mehsana

In 1932 Mehsana station, one of the busiest on the metre gauge, was completely interlocked, as shown in Fig. 2. The yard is fully track-circuited, all signals and points being mechanically operated. Advanced starting and home signals are electrically replaced to danger through track circuits. Outer signals are electrically replaced by the homes. "A" cabin contains 56 levers, "B" cabin 88. Signals 2 and 4 at "A" cabin and 75 and 87 at "B" cabin have electrical route indicators. Route levers are provided to detect the route required, release the respective home signal, and operate the road number in the route indicator. The island platform line is divided by a double crossover, enabling trains to be received along No. 6 line from "A" cabin via No. 4 crossover, or from "B" cabin via No. 5 crossover. The ground frame is normally locked up. Full size levers operate the crossovers; the remainder are miniature levers working circuit controllers and mechanical locking. Point levers are tracklocked and point-setting levers backlocked with route levers in the cabins.

The reception of the various trains is predetermined, platform schedules being framed and fixed in the cabins. The cabinman in, say, "A" cabin applies to "B" cabin for the control required by single stroke bell. The cabinman in "B" cabin reverses his lever, operating a relay in "A" cabin. At the platform ground frame—if the train has to use a crossover—a pointsman, having been given the lock-up key by the stationmaster, unlocks and operates a slide, then replaces two, normally reversed when the frame is locked up, to permit straight-through reception without sending out a pointsman. He then reverses the crossover lever, releasing another slide, which he reverses. This operates a corresponding slot relay in "A" cabin, where the cabinman sets up the route which mechanically releases a route-lever. Reversal of this releases the home signal. The ground frame is now locked up; the slide there cannot be replaced normal until the route lever is normal. The home signal is replaced to danger and the route cancelled through track circuit. The same feature applies to all other receptions. The advanced starting signals are interlocked with the tablet instruments in the stationmaster's office, save those leading to branches worked by train wire or Morse. Trains entering the section replace the signal through the track circuit and on replacing the lever normal it becomes locked. An emergency key release is provided in connection with these signals, enabling the tablet release to be cancelled should the stationmaster have to alter the order of departure of trains.

On the stationmaster informing the cabinman by phone that the release is to be cancelled he breaks the paper front of a box and obtains the key. The signal maintainer is

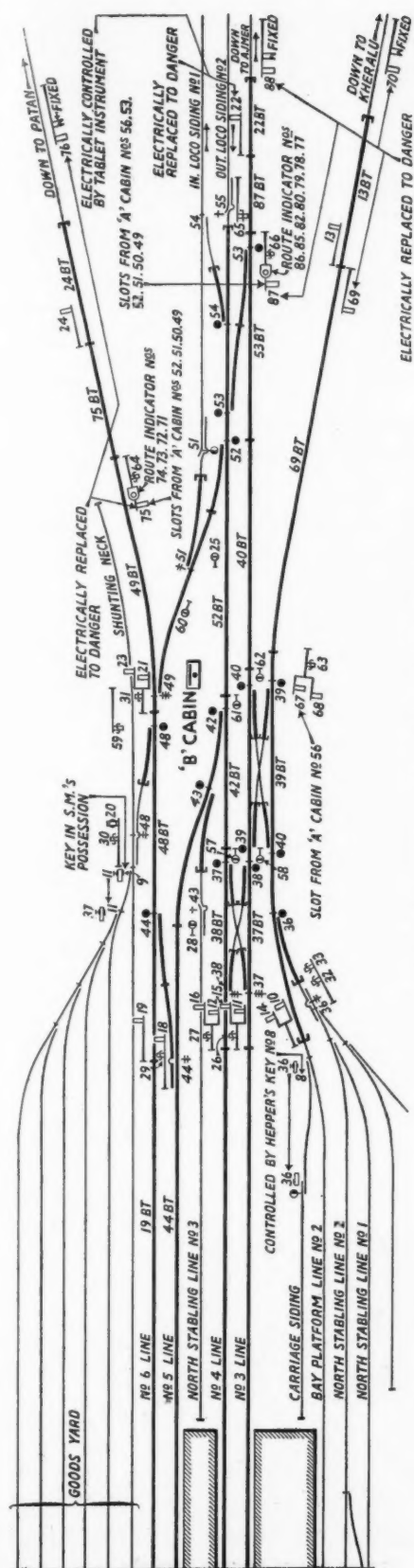


"A" CABIN.—DESCRIPTION OF LEVERS

Signal lever No. 1 ...	Down main outer	Spare lever No. 29 ...
" 2 ...	" " " home	" 30 ...
" 3 ...	" " " " line up outer	Points " 31 ...
" 4 ...	Virangam line up outer	Spare " 32 ...
" 5 ...	" " " home	" 33 ...
" 6 ...	To bay platform line No. 1	" 34 ...
" 7 ...	" " No. 3 line	Signal " 35 ...
" 8 ...	" " " "	Spare " 36 ...
" 9 ...	" " " "	Signal " 37 ...
" 10 ...	To No. 4 line	" 38 ...
" 11 ...	To No. 5 line	" 39 ...
" 12 ...	" " 5 " through No. 6 line cross over	" 40 ...
" 13 ...	" " 6 line	" 41 ...
" 14 ...	" " goods yard	Up goods starter " 42 ...
" 15 ...	" " " "	No. 6 line up starter " 43 ...
" 16 ...	Main line down shunt	" 5 " " " " 44 ...
" 17 ...	Virangam line up shunt	" 4 " " " " 45 ...
" 18 ...	Shunting neck shunt to goods yard	" 3 " " " " 46 ...
" 19 ...	" " " "	Bay platform line No. 1 up starter " 47 ...
" 20 ...	Cross over down main to Virangam line	" 48 ...
" 21 ...	" " " "	On goods yard " 49 ...
" 22 ...	On level crossing gate	No. 6 line " 50 ...
" 23 ...	Facing No. 4 line	" " 51 ...
" 24 ...	" and trap south stabling line No. 2	" 5 through No. 6 line cross over " 52 ...
" 25 ...	" " No. 5 line	" 5 line " " 53 ...
" 26 ...	Cross over No. 6 line and goods yard	" 4 " " 54 ...
" 27 ...	Goods line to shunting neck	Spare " 55 ...
" 28 ...	" " " "	On No. 3 line " 56 ...
Spare " 29 ...	Control " 57 ...	" 58 ...

GROUND FRAME.—DESCRIPTION OF LEVERS AND SLIDES

Slide No.	1	2	3	4	5	6	7
	S.M.'s lock up	Points setting for straight line from "A"	Cabin	from No. 6 to No. 5 line from "A" cabin	No. 6 to No. 5 line from "A" cabin	Points setting from No. 6 to No. 5 line from "B" cabin	Points setting for straight line from "B" cabin



"B" CABIN.—DESCRIPTION OF LEVERS

Control lever	No. 1...	On bay platform line No. 2 and carriage siding	No. 29 ...	No. 5 line down shunt	Signal	lever	No. 59 ...	Shunting neck up shunt to goods yard
"	2...	" No. 3 line	30 ...	Goods yard down shunt to shunting neck	"	"	60 ...	Patan Junction up dwarf shunt
"	3...	"	31 ...	No. 6 line loco. shunt	"	"	61 ...	No. 4 line up intermediate dwarf shunt
Spare	4...	"	32 ...	Carriage siding shunt to Kheralu line	"	"	62 ...	" 3 "
"	5...	"	33 ...	" main line	"	"	63 ...	Kheralu line up shunt
Control	6...	On No. 4 line	34 ...	"	"	"	64 ...	Patan line up shunt
"	7...	" 5 "	35 ...	"	"	"	65 ...	Up loco. shunt
"	8...	over	36 ...	Facing and trap bay platform line No. 2 and carriage siding	"	"	66 ...	Main line up shunt
"	9...	" 6 line	37 ...	Cross over No. 3 line to No. 4 line	"	"	67 ...	Kheralu line up routing home to No. 3 line
"	10...	" goods yard	38 ...	" 4 "	"	"	68 ...	Kheralu line up routing home to bay platform line No. 2
Signal	"	Down starter bay platform line No. 2 to Kheralu	39 ...	" 3 "	"	"	69 ...	Kheralu line up home
"	11...	Down starter No. 3 line to Kheralu	40 ...	" Bay platform line No. 2 to main line	"	"	70 ...	" outer
"	12...	" advance starter	41 ...	"	Route	"	71 ...	To goods yard from Patan
"	13...	" advance starter to Kheralu	42 ...	Facing No. 4 line to No. 5 line	"	"	72 ...	" No. 6 line from Patan
"	14...	" starter bay platform line No. 2 to main line	43 ...	and trap from No. 4 line to north stabling line No. 3	"	"	73 ...	" 5 " through No. 6 line from Patan
"	15...	Down starter No. 3 line to main line	44 ...	Cross over No. 6 line to No. 5 line	"	"	74 ...	" 5 " from Patan
"	16...	" 4 "	45 ...	"	Signal	"	75 ...	Patan line up home
Spare	17...	" 6 line	46 ...	"	"	"	76 ...	" outer
Signal	18...	Down starter No. 5 line to Patan line	47 ...	"	Route	"	77 ...	To goods yard
"	19...	" goods starter	48 ...	Cross over No. 6 line to goods yard	"	"	78 ...	" No. 6 line
"	20...	" advance starter to Ajmer	49 ...	Facing No. 6 line	"	"	79 ...	" 5 " through No. 6 line
"	21...	" intermediate starter to Patan	50 ...	"	"	"	80 ...	" 5 line
"	22...	" advance starter to Patan	51 ...	Facing and trap loco. entrance	Spare	"	81 ...	" To No. 4 line
"	23...	" advance starter to Ajmer	52 ...	" No. 4 line to No. 6 line	Route	"	82 ...	"
"	24...	" intermediate starter to Patan	53 ...	Cross over main line to No. 4 line	Spare	"	83 ...	"
"	25...	" advance starter to Patan	54 ...	" loco. entrance and exit	"	"	84 ...	"
"	26...	No. 4 line down dwarf shunt	55 ...	Trap from loco. line	Route	"	85 ...	To No. 3 line
"	27...	" 3 " shunt	56 ...	"	"	"	86 ...	" Bay platform line No. 2
"	28...	North stabling line No. 3 down dwarf shunt	57 ...	No. 4 line up dwarf shunt	Signal	"	87 ...	Main line up home
"	"	"	58 ...	" 3 "	"	"	88 ...	" outer

Fig. 2—Signalling at Mehana station, B.B. & C.I.R.

then called to replace the front. Fronts are serially numbered and the District Chief Signal Inspector sends a monthly return to the Signal Engineer detailing serial numbers of paper fronts broken and reasons for their breakage, the Signal Engineer sending a copy to the District Traffic Superintendent concerned. This system is used with other types of releases, signals backlocked by treadles, &c. Keeping the papers serially numbered and submitting a return provides a constant and necessary check.

The majority of the points are without bars, being track-locked and operated by switch and lock mechanisms. Combined switch and lock point detectors are incorporated

in the layout, operating a standard d.c. interlocked relay. Track circuits are d.c. fed by A.D. caustic soda cells through a standard variable resistance. Electric slots, route indicators, point detection circuits, diagram lighting, &c., are energised from a common 10-volt busbar, connected to groups of A.D. No. 220 type cells in series-parallel. The diagrams have a teak case and glass front; the plan is painted on black paper in white lines and colours, and an occupied track circuit is indicated by a red light. Points are repeated by illuminated "N's" and "R's" over their levers.

(To be concluded)

NOTABLE GAUGE CONVERSION IN GERMANY

The narrow-gauge Müglitz Valley Light Railway in Saxony has been reconstructed on the standard-gauge with improved alignment, and traffic was transferred to it on April, 26 last

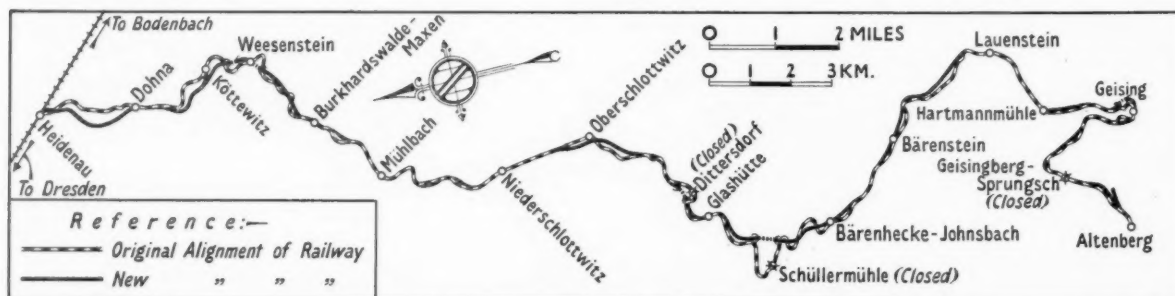
TOWARDS the end of last year the train service on the narrow-gauge Müglitz Valley Light Railway, in Saxony, was withdrawn, and after an interim period in which road transport provided communication over part of the route owing to a fall of rock, traffic was transferred on April 26 this year to a standard-gauge line differing considerably from the alignment of the old in many places. The Müglitz Valley line, which leaves the main German State Railway Dresden—Bodenbach route to Prague at Heidenau, was constructed as far as Geising in 1890 on the 0.75 m. (2 ft. 5½ in.) gauge, with curves as sharp as 80 m. (263 ft.) radius in places. The line was extended to Altenberg in 1923, making its total length 41.6 km. (25¾ miles), in which it rises 634 m. (2,080 ft.); the steepest gradient is 1 in 30, and the average 1 in 65. The district possesses many industries, including glass, watch, clock, and calculating machine factories, due to the abundant water power available, and the line has numerous private sidings along it. The scenery is very beautiful, especially beyond Geising, and the valley is a favourite place for excursions, holidays and winter sports.

The main Heidenau—Altenberg road, passing through the valley, crossed the line at 26 points, and 240 crossings with other roads imposed a low average speed on the trains. Transshipment at Heidenau was also an obstacle to quick service. These difficulties became pressing after the war, as motor lorries made their appearance, and then buses. Traffic—especially the best paying classes—fell off. Transporter trucks to convey standard-gauge vehicles over the line, were introduced before the war, but the wide overhang necessitated travelling slowly with them.

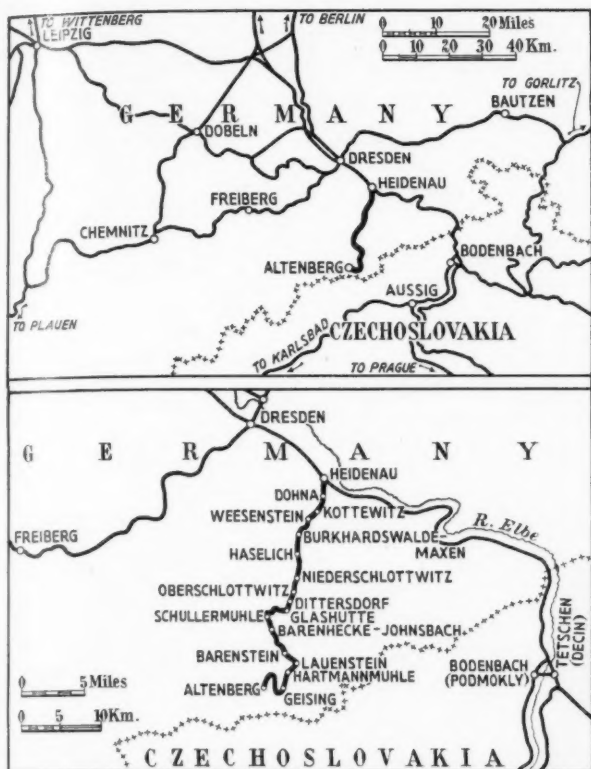
On July 8, 1927, there was a severe flood in the valley, resulting in great damage and the loss of 35 lives. Long sections of the line were broken up and the question of abandoning it in favour of motor services was raised. The Reichsbahn was willing to do this, but investigation showed that the various industries could not be so well and cheaply served by motors, while the heavy peak holiday traffic, especially for winter ski-ing, was also a difficulty. As many as 10,000 people had been taken by the railway to the mountains on a Sunday. The question of converting the gauge was then considered, but it was decided to reopen the narrow-gauge line as quickly as possible to begin with, as its facilities were needed. This was accordingly done.

In 1934, as part of an unemployment remedy for the Erz district, the gauge conversion scheme was taken in hand. At first it was suggested that the level crossings might be eliminated, leaving the gauge narrow, but the cost of doing this would not have brought a commensurate advantage to the line; the extra cost for a standard-gauge route was therefore voted.

The path of the old line, often hemmed in between road and river, did not allow of straightforward gauge conversion. Larger radius curves were essential if better speeds were to be obtained, and realignment alone, in many places, enabled the crossings to be avoided. A new route was planned, varying considerably from the old in some localities, and this made it possible to keep the narrow gauge going to within a few weeks of the completion of the work. On the new route the curves are usually not under 180 m. (590 ft.) radius, but one or two of 140 m. (459 ft.) have been necessary on the upper sections. The



Map of Müglitz Valley branch of German State Railway showing the re-aligned sections



Sketch map of the Müglitz Valley branch line (Heidenau to Altenberg) showing its position in relation to the pre-Munich Czecho-Slovak frontier

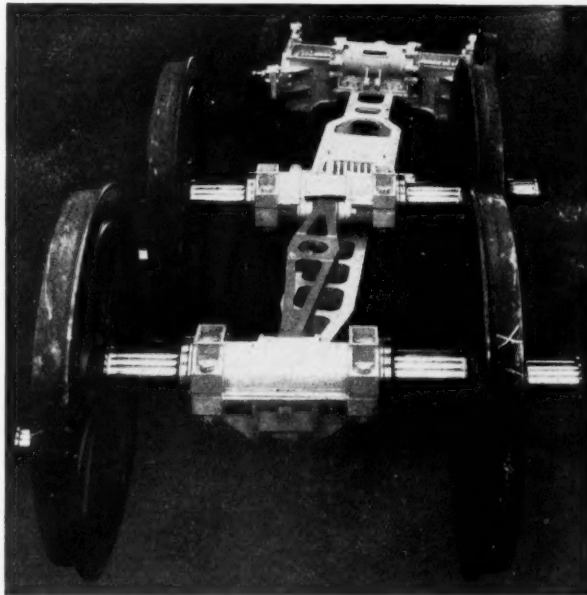
steepest gradient below Geising is 1 in 40, with steeper ones above.

As little change as possible has been made in the station arrangements. A special goods station has been built to serve a fibre and paper works. The line has been shortened by 3.6 km. (2¼ miles); 201 crossings have been abolished, including all those over main roads; 65 remain, 19 of which have barriers operated by keepers. No fewer than 75 new bridges have been built and 5 short tunnels. There are numerous embankments, and cuttings as deep as 22 m. (72 ft.). Much care has been taken to make the engineering works harmonise with the surroundings.

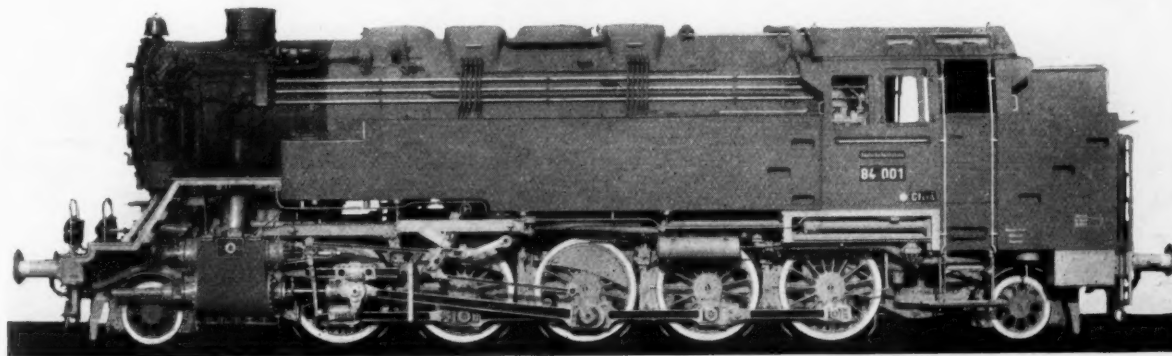
In August, 1938, the upper part of the narrow gauge

service, between Lauenstein and Altenberg was suspended, and on September 19 the remainder to Heidenau was closed, enabling the final operations to be pressed forward and the standard-gauge service to be begun on December 23 of last year. The fall of rock above mentioned necessitated a temporary suspension immediately after on part of the route, through running finally commencing on April 26, 1939. The special 2-10-2 tank locomotives built for the new line were described in *THE RAILWAY GAZETTE* of March 13, 1936. They can negotiate 100-m. curves, the leading and trailing pairs of coupled wheels being capable of controlled transverse displacement. These engines are designed, also, to haul 180-ton trains at 40 km.p.h. (25 m.p.h.) on gradients of 1 in 27 to 1 in 30, and to have a maximum speed of 70 km. (43.5 m.p.h.) Their trains consist of third class vehicles weighing only about 25 tons each for a passenger capacity of about 70.

This gauge conversion made it possible to reach Altenberg in 70 min. from Dresden instead of 2¼ hr., and from Berlin in 3½ hr. It had been confidently expected that the district would speedily attract greatly increased numbers of visitors, and Altenberg terminus had been specially laid out to deal with winter sports traffic.



Schwarzkopff-Eckardt arrangement for allowing sideplay



New 2-10-2 three-cylinder tank locomotive with Schwarzkopff-Eckardt bissel arrangement

THROUGH RUNNING BETWEEN STANDARD AND 5-FT. GAUGES

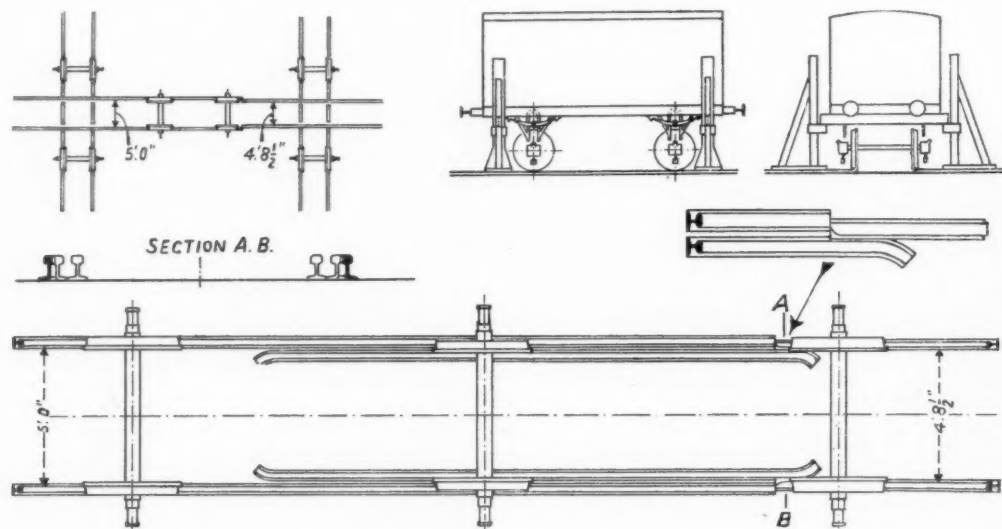
Methods of changing wagon wheel sets to enable wagons to run through from one gauge to another as adopted at frontier stations in Poland

POLITICAL and strategic considerations have often been held to account for the decision to adopt the 5-ft. gauge for the railways of Russia, the idea being that in the event of invasion the enemy would be prevented from using any rolling stock other than that which he might be able to commandeer within Russia itself, which would considerably hamper his progress. This presumption was falsified when during the war of 1914-1919 the Germans, in penetrating Russian territory, effected a change of gauge to their own standard of

to the St. Petersburg & Moscow Railway, the construction of which was then being planned. Prior to the 1914-19 war all main lines in Russian Poland, other than the Warsaw-Vienna standard-gauge railway, were built to the 5-ft. gauge, but with the reconstruction of the country the 4-ft. 8½-in. gauge was adopted, and all essential conversions made.

Gauge-to-Gauge Transfer of Rolling Stock

In view of the inconvenience and delay caused by tran-



Method of adapting wagons for either 5-ft. or 4-ft. 8½-in. gauge

4 ft. 8½ in. on the sections to be worked, by moving in one of the rails the required distance, on the existing sleepers.

Origin of Russian 5-ft. gauge

There is, however, evidence to show that the reasons above quoted were not the determining factors in selecting the 5-ft. gauge in Russia, as was made clear by the correspondence published in the issue of THE RAILWAY GAZETTE of December 4, 1936. In a letter inscribed "St. Petersburg, September 9, 1842" and addressed to "His Excellency The Count Kleinmichel," the American railway contractor, Major George W. Whistler, cited the advantages claimed for the broad-gauge construction of the Great Western Railway in England, but considered them invalid for Russia, for which he advocated a gauge of 5 ft. Major Whistler went on to say "I have adopted the additional 3½ in., because it is not necessary in this case to adhere to the precise dimension of 4 ft. 8½ in. for the purpose of connecting with other roads of that gauge, and because it is too small an increase to affect materially the important question of cost—and will be available for convenience in the construction of engines." This referred

shipment at points where the break of gauge occurred between the Polish and Russian railways, and to facilitate in effect the through passage of the rolling stock of either country, measures were adopted, and have been in force for some years, whereby the same vehicles can be used for both the standard and broad-gauge lines. These were illustrated and described by Professor Lionel Wiener in the *Bulletin of the International Railway Congress Association* of May, 1936. The drawings reproduced herewith from the *Bulletin* help to explain the methods used. The length of the axles and the distance between journals are the same for the wheel sets of both gauges, but on the standard gauge wheel sets the wheels are placed slightly inwards from the journals.

The actual conversion operation, which takes only a few minutes, proceeds as follows: the vehicle is brought on to a transition track and the axle guard stays removed. A lifting bar is placed across each end of the underframe and the whole is lifted clear of the wheels by electric jacks. The wheel sets are then removed and those of the other gauge run into position and the vehicle lowered on to them, the axleboxes being secured against

turning while this is proceeding. The brake shoes are then fitted with adjusting pieces and the vehicle is ready for transit.

The transition track consists of a 5-ft. gauge section provided with check rails so that when a 4-ft. 8½-in. gauge wagon enters it, the backs of the wheel flanges bear against the check rails while the outsides of the treads are still supported on the 5-ft. gauge rails. In actual fact, the transition section narrows slightly towards the 4-ft. 8½-in. gauge end, which is permissible owing to the ¾-in. sideplay of the broad-gauge wheel sets.

An Earlier Gauge Conversion System

The transfer system just described has been in use at Zdolunow, where the U.S.S.R. line from Kiev enters Poland. Before the gauge conversions mentioned in the article on the Polish railway system in our September 22 issue, there were various junctions between the standard and Russian gauges within Poland itself or on its non-Russian frontiers, as at Lodz, Mlawa, and Novosiletsa (formerly Austrian frontier, now in Roumania). At these points wagons were, before the war of 1914-19, transferred from gauge to gauge by a system designed by M. Breidsprecher, Manager of the Marienburg-Mlawa Railway. In this method the two gauges met in a shallow pit, at each side of which (at ground level) there was a narrow gauge line carrying three-wheel trolleys to support the

wagons as they were pushed over the pit by a shunting engine, and their own wheels and axleboxes, previously released, rolled into the pit to await the next train coming from the opposite direction. An obstruction was placed between the gauges in the pit so that wheel sets could

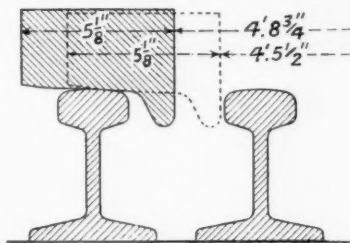


Diagram illustrating how standard gauge wheels are supported by 5-ft. rail and check rail preparatory to substitution of 5-ft. gauge wheel set

not roll beyond their proper gauge. Two men were necessary at each end of the pit, one pair releasing the wheels to be discarded, and the others using a kind of hook to draw forward wheel sets of the new gauge out of the pit until the rising gradient enabled the axleboxes to be connected to the wagons.



Left: A typical station on the new line under construction from Sutherland to the seaside resort of Cronulla in New South Wales, Australia. (See description on page 427)

Below: Scene after a meeting of the Allied Supreme War Council held in Sussex on September 23

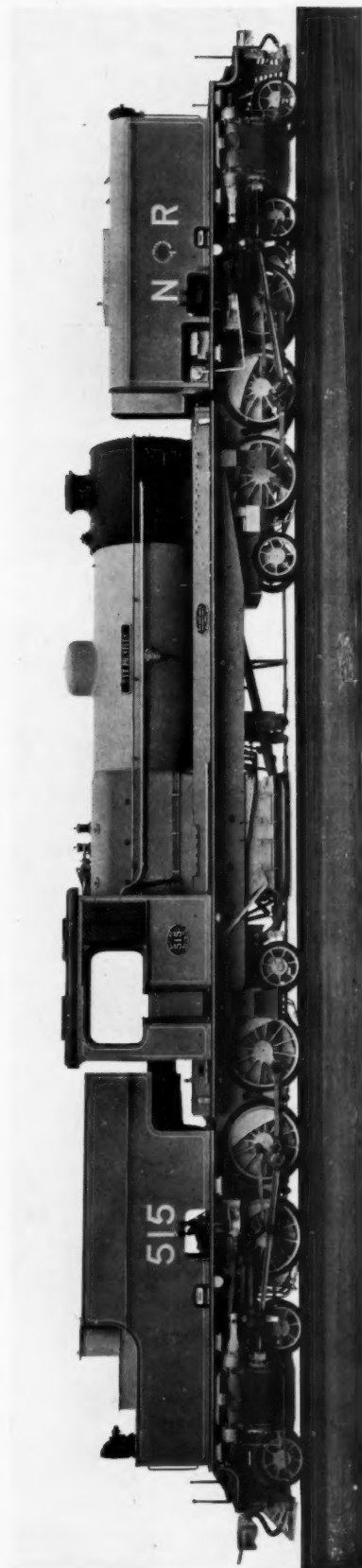
From left to right: General Gamelin, French Commander-in-Chief; Lord Chatfield, Minister for Co-ordination of Defence; Lord Halifax, Foreign Minister; Mr. Neville Chamberlain, Prime Minister; M. Dautry, Minister of Armaments (France); M. Corbin, French Ambassador in London; and M. Daladier, Prime Minister of France

In an article on the new French Ministry, M. Andre Maurois writes of M. Dautry's appointment as Minister of Armaments (to which we referred editorially last week): "It would have been impossible to make a more brilliant choice, or one more welcome. M. Dautry is an engineer, who displayed remarkable qualities in the reorganisation of the French railway system. He knows everything there is to know about French industry. He has himself been at the head of great manufacturing concerns. It has always been my hope to see him at the post he occupies today. Under him the production of aircraft and arms of all kinds will rapidly increase. Wherever Raoul Dautry goes he wins the affection of the workers, and of all who are under him. I know him, I admire him, I am certain he will be a great Minister."





Facsimile of the first train in the Netherlands, which has been built for use at the centenary exhibition (see page 447)



New Beyer-Garratt double-Pacific locomotive, named "G. V. O. Bulkeley," after the first Director of Transport in Nigeria. The remaining three locomotives of the order are named "M. P. Sells" (after the late C.M.E. of the Nigerian Railway), "Sir John Maybin" and "Sir William Hunt." This is the third order to the same design, and 16 of the locomotives are now in traffic. These engines have a maximum axle-load of 9½ tons and operate over 45-lb. rails on 3-ft. 6-in. gauge lines. The total evaporative heating surface is 1,521 sq. ft., the grate area 31.6 sq. ft., and the wheels 4 ft. in diameter

RAILWAY NEWS SECTION

PERSONAL

The following official announcements were issued on Monday last:—

WAR OFFICE—DIRECTOR-GENERAL OF TRANSPORTATION & MOVEMENTS

The War Office announces the appointment of Mr. G. S. Szlumper, C.B.E., T.D., M.Inst.C.E., M.Inst.T.,

also a member of the Railway Executive Committee, appointed by the Minister of Transport.

The Minister of Transport has appointed Mr. E. J. Missenden, O.B.E., as a member of the Railway Executive Committee to replace Mr. Szlumper.

SOUTHERN RAILWAY MANAGEMENT

The directors of the Southern Railway state that consequent on the selec-

Assistant General Manager, to be Deputy General Manager.

The official announcement adds:—

"The directors wish to record their high appreciation of the honour which Mr. Szlumper's appointment reflects upon the company, following, as it does, the selection in 1914 of Sir Herbert Walker, then General Manager of the London & South Western Rail-



Mr. G. S. Szlumper, C.B.E.

Director-General of Transportation & Movements, War Office



Mr. E. J. Missenden, O.B.E.

General Manager and Traffic Manager, Southern Railway

General Manager, Southern Railway, to be Director-General of Transportation & Movements at the War Office.

The new Director-General will be responsible, under the Quarter-Master-General to the Forces, for the general supervision and co-ordination of all military transportation requirements overseas, for the provision of the necessary plant and material, and for the arrangement of all military movements by sea and land. He will also, under the Quarter-Master-General, be responsible, in conjunction with the Adjutant-General, for the provision of transportation personnel.

RAILWAY EXECUTIVE COMMITTEE

Before his new appointment at the War Office, Mr. Szlumper, as General Manager of the Southern Railway, was

tion, by the Secretary of State for War, of Mr. Gilbert S. Szlumper, C.B.E., for the post of Director-General of Transportation and Movements, War Office, which has been made with the fullest approval of the board, the following appointments are announced, to take effect during Mr. Szlumper's absence from the railway, and dating from September 25:—

1.—Mr. E. J. Missenden, O.B.E., Traffic Manager, having regard to his many years of railway service, his operating and docks experience, and to the outstanding ability with which he has carried out his heavy responsibilities, to be General Manager and Traffic Manager.

2.—Mr. J. B. Elliot, who has most successfully carried out his duties as

way, to be Chairman of the Railway Executive Committee. The board is happy to think that, in times of national need, its chief executives should be called on to assume the highest responsibilities."

Mr. Gilbert Savil Szlumper was born in 1884, and was educated at King's College School and the Engineering Faculty, King's College. He is the only son of the late Mr. A. W. Szlumper, formerly Chief Engineer of the Southern Railway. He became associated with the former London & South Western Railway in 1901, when he began a term of professional training under the late Mr. J. W. Jacomb Hood, the Chief Resident Engineer. On the completion of his training he had a varied experience in the Engi-

neer's Department, undertaking several special investigations and being Resident Engineer on a number of works executed without a contractor. He was appointed Chief Assistant to the Central District Engineer in 1910. In 1913 he was appointed Resident Engineer in charge of the trackwork, &c., of the London & South Western Railway electrification scheme, and also the Hampton Court flyover line. In February, 1914, he was appointed Assistant to the General Manager (Sir Herbert Walker), and acted as Secre-

Senior R.T.O. of the Army; he was promoted to Major in 1916; to Lieutenant-Colonel in 1928; and to Colonel on October 30, 1937. He received the Territorial Decoration in 1921. On the formation of Railway Air Services Limited in 1934, Mr. Szlumper was elected a Director. In 1937 he was appointed to succeed Sir Herbert Walker as General Manager of the Southern Railway, and assumed that office on October 14 of that year.

Mr. Eustace James Missenden en-

ber 10, 1936, he succeeded Mr. E. C. Cox as Traffic Manager of the Southern Railway, a position which he still holds, and to which he has now added the responsibilities of the general managership during Mr. Szlumper's absence from the railway.

Mr. John Blumenfeld Elliot was born in 1898, and educated at Marlborough and the Royal Military Academy, Sandhurst. He was gazetted to the 3rd Hussars in 1917, and was on active



Mr. J. B. Elliot
Deputy General Manager,
Southern Railway



Mr. H. G. Drury—Centenarian
Sometime Superintendent of the Line,
Great Eastern Railway

tary to the then-secret Railway Executive Committee. During the war of 1914-1919 his chief work was the secretaryship of the Railway Executive Committee, until in 1919 he returned to the London & South Western Railway service as Deputy Docks & Marine Manager at Southampton. At the end of 1920 Mr. Szlumper succeeded Mr. T. M. Williams as Docks & Marine Manager, L.S.W.R., and in June, 1923, became Docks & Marine Manager for the whole of the Southern Railway. On May 1, 1925, he was appointed Assistant General Manager and also retained until 1927 the position of Docks & Marine Manager. Mr. Szlumper has been a keen Territorial soldier for many years, and in recognition of this and his railway work was appointed Railway Transport Officer in 1914, being

tered the service of the former South Eastern Railway in 1899, and, after several years' experience in station working, was transferred to the office of the Superintendent of the Line in 1906. He was appointed Assistant to the District Superintendent, Eastern Division, in 1912, and in 1914 was transferred as Assistant to the London District Traffic Superintendent. Mr. Missenden, after acting as London District Superintendent during 1919, was appointed London District Traffic Superintendent in 1920. Upon the amalgamation in 1923, he became London (East) Divisional Operating Superintendent, Southern Railway, and was appointed Assistant Superintendent of Operation in 1930. In September, 1933, Mr. Missenden was appointed Docks & Marine Manager. On Octo-

service with his regiment in France, Belgium, and on the Rhine until 1920, when he resigned his Commission to take up journalism. After experience in America on the *New York Times*, and in England on the *Daily Express* and the *Evening Standard* (of the latter paper he became Assistant Editor), he entered the advertising business, and in January, 1925, joined the Southern Railway as Assistant to Sir Herbert Walker in charge of publicity and advertising. In 1930 he was appointed Development Officer in the newly-formed Traffic Department, and was responsible for reorganising the sales and canvassing arrangements of the company. In 1933 he was appointed Assistant Traffic Manager, and on October 15, 1937, became Assistant General Manager. Mr. Elliot has repre-

sented the Southern Railway on a number of joint railway committees, including the Chemins de Fer Britanniques, Paris; Associated British & Irish Railways Inc., U.S.A., and Canada; and the Railway Air Services Standing Joint Committee. He visited the U.S.A. and Canada in 1935, in company with other Southern Railway Officers, to study rail, road, and air conditions in those countries. Mr. Elliot has been appointed Deputy General Manager, Southern Railway, during Mr. Szlumper's absence.

Mr. H. G. Drury, who as we recorded last week, became a centenarian on Saturday, September 16, and a recent portrait of whom we now reproduce, joined the old Eastern Counties Railway in 1854, eight years before that railway changed its name to Great Eastern. He retired from the Great Eastern Railway service in 1904, having been Superintendent of the Line for seven years, and was elected a member of the Retired Railway Officers Society in 1905. For the years 1911-13 he was Chairman of that society. The following is an appreciation by "J. E. S."—

"A leonine head, crowned with thick white hair, shaggy eyebrows over piercing, but kindly grey eyes and strongly chiselled features; this is Mr. H. G. Drury, for many years the Superintendent of the Line of the former Great Eastern Railway, who after 35 years of retirement, celebrated his hundredth birthday on Saturday, September 16. With a mind still active and a most retentive memory, the only complaint he has to make is that *anno domini* has exacted some toll on his robust physical frame, so that whilst his general health is excellent, he has now to forego reluctantly the daily round of golf which he has enjoyed up to a quite recent date.

"Mr. Drury was known to his *confrères*, few of whom, alas, are with us now, as an eminently practical railwayman, and his promotion from the position of Assistant Superintendent to that of Superintendent was a worthy recognition of sheer merit and ability. During his tenure of office as Superintendent of the Line there were big railway developments. The huge suburban traffic now handled by the Great Eastern Section of the London & North Eastern Railway was in its infancy, and much was done to foster it by the introduction of workmen's tickets—quite a notable innovation in connection with railway travel. The main line services to the East Anglian coast were also greatly improved, and with the provision of more powerful engines, notably the *Claud Hamilton* which, before being put into service was shipped to the Paris Exhibition in 1900, the non-stop runs to Cromer and Sheringham were instituted.

"Mr. Drury's interest in the staff was quite 'fatherly,' and he was always anxious to do everything he could to further their interests. To him is due the credit of the inauguration of the Great Eastern Railway Building Society which has continued to the present time and is now a flourishing society with a large capital and valuable assets. He was also largely instrumental in formulating the Great Eastern Superannuation scheme, the benefits from which were on a considerably higher scale than those from similar railway funds which were subsequently introduced.

"Always a good sportsman, Mr. Drury, in his younger days, was an exceedingly

good oarsman—and also excelled in the three-legged race, once so popular—to which the 'pewter pots' in Mr. Drury's possession bear eloquent testimony. To live to reach the century is given to few men, and of these there are not many who possess the virility of Mr. Drury. To a younger generation of railwaymen his name was a household word, and his industry, perseverance and strength of character have been an influence in the development of the career of many present-day railway officers. His large circle of friends both in and outside the railway world join in doing honour to this grand old man of the railway service in the hope that he may be spared yet for some years to be inspiration and example to those who are called upon to uphold the

railway tradition in these difficult and indeed tragic times."

Mr. T. E. Thomas will be inducted as President of the Institute of Transport for the year 1939/40 and will deliver his presidential address on Monday, October 9, at the Charing Cross Hotel, Strand, London, W.C.2, at 2.30 p.m.

Mr. Derrick G. Soño, hitherto Assistant Secretary of the Mansion House Association on Transport, has been appointed Secretary of the association as from October 1. Mr. C. F. King will continue to act as Honorary Secretary.

STAFF AND LABOUR MATTERS

Railway Staff National Tribunal

After the case for the railway companies had been put to the Railway Staff National Tribunal by Mr. Darbyshire on September 20, as recorded last week, Mr. Marchbank opened his reply by saying that the fact that the union's claim was again before the tribunal so soon after the previous hearing, was evidence of the dissatisfaction which exists, especially since in the meantime the companies have made changes without agreement with the union. He said that the companies' submission that the minimum wage at the present time represents greater purchasing power than the minimum wage at the time of the national agreement, was accepted by the union and was not contested, but that, he said, does not suggest that the men are in receipt of wages consistent with what he had described as "human needs." On the question of average earnings he said that he must again emphasise that he did not accept this as a reasonable argument in opposition to the union's claim for a 50s. minimum, which was the figure from which average earnings should begin. He said the argument as to revenue, receipts, and so on, was one that he was not prepared to accept. The first charge on any industry must be the payment of reasonable wages. What we had to concern ourselves with at present, he said, was whether the present minimum was reasonable or not in view of the requirements of the individual. If the logic of the companies' arguments were followed, then, he said, we should find men receiving a wage based purely upon net revenue or receipts. The amount of net revenue should not be a factor in determining what is a reasonable minimum adult wage in an industry.

Mr. Squance in his reply said that he could not accept the companies' submissions in regard to the co-ordination of claims of the various unions, and argued that his society had the right under the machinery of negotiation to submit their programme items independently of any other union. On the question of betterment in real wages as compared with 1914, he contended that

the 1914 rates of all grades of railway men were far too low. While he agreed that the extended roster was the means of effecting economy, he could not accept it as sound economy, or as necessary for the efficient operation of the railways. He could not accept the companies' argument in regard to additional holidays which he said were necessary to restore lost energy and make the men fit for efficient duty. Nor could he accept the companies' contention that modern locomotives have eased the duties of locomotivemen and argued that the work performed by the men was greater than in 1919-1920. He could not accept the companies' argument in regard to Sunday duty and contended that there were special features which merit granting the footplate grades conditions more favourable than those which exist at present.

Mr. Stott in his reply said that the companies ought not to cite the conditions of service of salaried staff which differ from those of the wages grades, especially those included in the national agreements, but Mr. Darbyshire having made such comparisons, Mr. Stott took them a stage further, stating that he felt justified in explaining that there was another side of the picture. On the question of the clerks who are on continuous night duty and for whom, along with others, the Railway Clerks' Association had claimed should be paid extra for night duty, Mr. Stott said that he would be justified in saying that in so far as the night duty of the continuous night worker impinged upon the hours between 10 p.m. and 4 a.m., that was something that he had in common with all other people, but in so far as he was always on that turn, that was something that he had in common with nobody—there was no other section of railway workers that was required always to be on a turn that finished after 10 p.m. or that began before 4 a.m. Therefore, he said, he felt justified in asking that for the thing that the continuous night worker had in common he should be paid, and for the thing that was unique, that he had not in common, he should continue to have the night off.

TRANSPORT SERVICES AND THE WAR—5*

G.W.R. introduces first public war timetable—Trespassing on guarded railway property—Existing freight traffic facilities—Transport on the Continent

The principal passenger service interest of the past week has been the introduction by the G.W.R. of a new public timetable on Monday last. On the same day the L.M.S.R. further amplified its wartime service of September 11. The Southern Railway continues to maintain its weekday summer schedule (with the exceptions mentioned last week and a few more on Saturdays), and last Sunday also catered specially for persons wishing to visit evacuees. The L.N.E.R. has not announced any further changes. In the following paragraphs are summarised the principal changes since our issue of Friday last.

G.W.R.—The Great Western Railway was the first company to issue a public war timetable, and its new service came into operation last Monday, September 25. The chief feature is the increase in the number of local services compared with those provided for the first three weeks of the war. The services between London and the Home Counties approximate almost to those provided in peace time. Reading, for example, has 35 down and 44 up trains, Maidenhead 28 down and 23 up, and Slough 44 trains in each direction. The following are examples of the long-distance services from London, from which it appears that the departure times of many familiar trains have been retained. From Paddington, for example, expresses leave:—

For South Wales at 8.55 a.m., 1.55 p.m., 5.55 p.m., 7.55 p.m.
For Birmingham and the North at 9.10 a.m., 2.10 p.m., 6.10 p.m., 7.40 p.m.
For Bristol at 9.15 a.m., 10.30 a.m., 1.15 p.m., 4.15 p.m., 6.30 p.m.
For Plymouth at 10.30 a.m., 1.15 p.m., 4.15 p.m., 6.30 p.m.

Similar facilities are provided in the reverse direction. All West of England trains on weekdays, except the 1.15 a.m. night train from Paddington to Penzance, run *via* Bristol, and the only long-distance services to use the Westbury route are those to Weymouth. The new timetable, price 6d., was on sale at G.W.R. stations, bookstalls, receiving offices, and booksellers at the end of last week, and members of the public were particularly requested not to use the telephone for train service enquiries, but to apply for such information to their local stations. A review of the new G.W.R. timetable is given in a leading article on page 423.

Under the heading "General Information" in the new timetable are given the following notices relating to facilities:—

Interavailability of tickets.—Passengers holding ordinary (including bulk-travel single-journey tickets) and season or traders' tickets covering points directly served by two or more companies' lines are allowed to travel, for the throughout journey only, by any route available. In cases where through tickets have been issued and there is no direct through service, a passenger is permitted to complete the journey by a recognised alternative route. These arrangements do not apply to local residential services unless specially authorised.

Restaurant and sleeping cars.—Restaurant and sleeping car facilities have been discontinued.

Through carriages.—Through carriages ordinarily run to and from certain stations have been discontinued, and passengers may be required to change at junctions *en route*.

Carriage of passengers.—The company will not be able to convey unlimited numbers of passengers by the trains which will be run, and if passengers cannot be provided with accommodation by any particular train, they must travel by subsequent trains.

Punctuality of trains.—The company also gives notice that it is unable to guarantee the punctuality of trains, and cannot be responsible for any delay, loss, or damage to passenger train traffic.

Through booking of passengers.—The usual arrangements for the through booking of passengers to other companies' lines are subject to variation, and connections with other companies' trains cannot be guaranteed.

L.M.S.R.—Long-distance train services to and from London, and certain important provincial services, were further amplified at the beginning of this week. With one exception (the afternoon service from Barrow and Blackpool to London) all the new trains were introduced on Monday last, September 25. On that date, also, the sheet timetables exhibited at L.M.S.R. stations were reissued to embrace the whole of the additions to train services made since the war-time services were introduced on September 11. The principal changes are as follow: From Euston there is a new service (daily, including Sundays) at 1 p.m. to Rugby, Crewe, Warrington, Wigan, and Preston, with through portions to Blackpool (including Fylde Coast stations), Lancaster, Carnforth, Grange, Ulverston, and Barrow-in-Furness. This train began on Monday last, but in the reverse direction the daily-including-Sundays train began on Sunday, September 24, leaving Barrow at 1.35 p.m. and Blackpool at 2.50 p.m., and arriving Euston 8.48 p.m. On the St. Pancras main line, additional expresses (Sundays excepted) run as follow: 3.30 p.m. St. Pancras to Manchester; 4 p.m. St. Pancras to Sheffield, *via* Nottingham; 7.20 a.m. Manchester to St. Pancras; and 9 a.m. Sheffield to St. Pancras, *via* Nottingham. New cross-country services (also Sundays excepted) comprise 5 p.m. Bristol to Sheffield and 3.10 p.m. York to Bristol. Additional Manchester residential trains are the 7.5 a.m. Blackpool to Manchester, and the 4.10 p.m. Manchester to Southport (both Sundays excepted); also the 7.18 a.m. Manchester (Victoria) to Leeds (Mondays only). An additional train leaves Windermere at 8 a.m. calling at principal stations and arriving Manchester (Exchange) at 10.30 a.m.; this train has a connection leaving Barrow at 7.30 a.m. for Carnforth, and calling at Grange and Ulverston.

Southern Railway.—For Saturday last the company announced that the up business services to London in the morning would be, with few exceptions, the same as for the ordinary weekdays. The down business services at midday were also practically normal. As in the previous week, a restricted service was in operation on Sunday, but, for the convenience of persons travelling to see relatives and friends who have been evacuated, additional trains were run in the morning, returning in the evening. The Southern Railway announced on September 23 that the train services from Monday to Friday, September 25 to 29, inclusive, would be the same as from Monday to Friday, September 18 to 22. A complete new Southern Railway timetable is expected to be introduced on Monday, October 16.

London Transport

The London Passenger Transport Board announced last Friday that, with the rationing of petrol and fuel oil on Saturday, September 23, arrangements had been made to maintain services on all Central (red) Bus routes, excepting routes Nos. 155 (Turnham Green and Chiswick), 166 (Elephant and Castle and London Bridge), and 207 (Barnes and Richmond Park Golf Course), and the supplementary services on four short sections of route, which are covered by alternative services. Apart from these exceptions there have been no withdrawals and no further alterations of bus routes. Previously, on many of the routes some reductions had been made in the numbers of buses in service. The special night services and times of first and last buses will remain unaltered. Full services continue to be maintained on all tram and trolleybus routes.

Train services on all lines are also being maintained. From the night of September 23 there has been improved lighting

* Previous articles in this series have been "Transport Services and the Crisis," September 1, page 334; and "Transport Services and the War," September 8, page 358; September 15, page 382; and September 22, page 410.

on the tube and District lines. Every carriage has been fitted with three special lamps of relatively low wattage, painted blue at the bottom, which keep the light within Government regulations and at least permit a passenger to see his neighbour. The work of fitting the Metropolitan Line trains will be completed shortly.

Workmen's Tickets and Air Raid Warnings

It has now been decided to allow half an hour for the issue of workmen's railway tickets after the sounding of an all clear signal. In the House of Commons, on September 13, the Minister of Transport announced that, in the event of an air raid warning being given during the time when holders of workmen's tickets were usually conveyed, and workpeople were thereby unable to travel by the authorised workmen's train services, these tickets would be issued and would be available for a period of 20 min. from the sounding of the all clear signal (see our issue of September 15, page 382). It was then felt that in some areas a rigid adherence to the period of 20 min. might cause hardship, and that at some stations it might be impossible to issue tickets to all in the queue within the time allowed. The Minister of Transport took this matter up and informed the House of Commons on September 20 that he had arranged for it to be discussed between the Railway Executive Committee and the Trades Union Congress. He added that it had now been decided that an interval of 30 min. will be given from the sounding of the "all clear" signal. If during this period an applicant for a workman's ticket arrives at a station and takes his place in a queue a ticket will be issued to him. The interval of 30 min. will be applied reasonably, and there will be discretion to extend it as necessary in particular cases and in exceptional circumstances.

Season Tickets Refund for Men Called Up

The Minister of Transport announced on September 20 that the railway companies will be prepared to allow refunds where there is a minimum non-user period of seven days in the case of season tickets deposited or surrendered by holders on service with His Majesty's Forces, including those called up under the Military Training Act, 1939. The refund on final surrender will be the difference between the original cost of the ticket and the cost of appropriate tickets (season, single, or return) or cover the actual journey made. When tickets issued for a period of more than one calendar month are deposited, 75 per cent. of the value of the period of non-user will be refunded. The companies will be prepared to apply these arrangements to men already called up for service.

Cheap Fares for Trips to Evacuees

The railway companies hope to be able soon to provide cheap facilities to assist parents to visit evacuated children, according to a semi-official announcement. On this subject, Mr. Walter Green, Labour Member for Deptford, was to ask the Minister of Transport in the Commons, on Wednesday night, if he would make such representations to the railways as might make possible the issue of cheap tickets to parents at stated intervals. He believes that at present, because parents of the poorer classes cannot afford to see their children, they might bring them back to the danger areas.

Trespassing on Places of National Importance

The War Office announced on September 26 that as certain places of military and national importance throughout the country such as camps, bridges, factories, gasometers, electrical plants, and railway junction lines, are guarded by armed sentries day and night, members of the public are earnestly warned against trespassing, and advised that when visiting such places on business they will be challenged. On being ordered to halt, they should do so immediately, announcing their presence with the word "friend." They must then be prepared to give their names and state the nature of their business. In view of the fact that all sentries are armed with ball cartridge it is most essential that the above precautions be strictly observed.

Irish Channel Services

On Friday last, September 22, the British & Irish Steam Packet Co. Ltd. announced the resumption of sailings on the company's express passenger service between Liverpool and Dublin. The company's sailings to and from Liverpool and other ports were suspended indefinitely on Saturday, September 9, as we recorded at page 384 of our September 15 issue.

The G.W.R. service between Fishguard and Rosslare is being maintained every weekday; and the Fishguard-Waterford service, in connection with the G.W.R., thrice weekly. The Fishguard-Cork service is suspended.

Civil Aviation

A new organisation entitled National Air Communication has been established under the Director-General of Civil Aviation to enable civil aviation to play its full part in the present emergency. Civil aviation has been put on a war footing. A statement issued by the Ministry of Information on September 19 says that the main objects of the new organisation are to enable civil aviation to continue a number of services; and to meet the essential air communication and transport needs of the Government generally. The organisation came into being immediately on the outbreak of war, and has since been constantly employed. It has carried out many onerous duties. It has flown many thousands of miles transporting key personnel, essential equipment, and stores. Many important officials have been conveyed rapidly to their stations overseas in N.A.C. aircraft, which have successfully completed several notable long-distance flights during the past few weeks. Transatlantic air mail services have been regularly operated, and the Empire air services are still carrying passengers and mails, although the reduced frequency has made it necessary to suspend the system of carrying all first-class mails without surcharge. National Air Communications was not a hasty improvisation, it is stated. While civil air transport would inevitably be restricted in war, it was felt that the skilled pilots and equipment available, supplemented by experienced pilots recruited from the Civil Air Guard and the flying clubs, could make a most effective contribution to the national effort. This expectation has been fully realised.

Freight Traffic

In view of the many official notices which the main-line railway companies and the Railway Executive Committee have found it necessary to issue during the past few weeks, there seems to be some uncertainty in the minds of traders as to what facilities are available. Some special services have already been withdrawn (as noted from time to time in these columns) and others are subject to various unavoidable delays, and it seems useful at the present time to summarise the position.

Towards the end of August the main-line railway companies issued a special notice headed "Passenger merchandise, mineral, live stock, and coal class traffic," which said that the railway companies regretted that in consequence of the crisis it was necessary for them to give notice that their regular passenger and goods train and boat services might be considerably curtailed, or interrupted, and that they would be able to book passengers and accept traffic only as circumstances permitted, and then only on the understanding that they could not be responsible for any delay, damage, or loss which might arise through any such curtailment or interruption.

On September 1, the Minister of Transport made an Order taking control of the railways of Great Britain (other than those of only local importance), and appointed the Railway Executive Committee to give directions on his behalf under the Order. The Minister of Transport also requisitioned all privately-owned wagons, other than those designed for special classes of traffic, as recorded at page 359 of our September 8 issue.

Notice was given by the Railway Executive Committee on September 3 that, in consequence of the pressure on the railways owing to war requirements, the "green arrow"

and "blue arrow" registered transit arrangements for expediting delivery of consignments by railway was suspended. It was also found necessary (on September 14) to suspend "cash-on-delivery" facilities, but other railway services, such as household removals and collection-and-delivery services, are being continued so far as present circumstances permit.

The Railway Executive Committee announced, on the morning of September 8, that, in order to facilitate the handling of traffic in the interests both of the traders and of the railway companies, goods tendered for conveyance by rail, on and after September 8, must, during the period of emergency lighting, bear a white label clearly addressed in black ink or type. Railway consignment notes also must be typed clearly or written in black ink.

The attention of traders was called on September 14 to the urgent necessity of making every effort to avoid detention of rolling stock either loaded or empty. The statement of the Railway Executive Committee said: "Railway wagons and sheets—The demand for railway wagons and sheets is extremely heavy owing to the large amount of Government traffic and material for the manufacture of munitions, which the railway companies are being called upon to handle specially. The Railway Executive Committee earnestly requests the co-operation of the traders throughout the country in assisting it to cope with the heavy traffic which is being worked under exceptionally difficult conditions. Two means by which material assistance can be rendered are: (1) Traffic should not be loaded in wagons except when required for immediate despatch; (2) wagons received with inward traffic should be unloaded and handed back to the railway company with all possible despatch."

Steel Shelters

The number of steel air raid shelters allocated for free distribution, states the Ministry of Home Security, including those which are being delivered this week, amounts to 1,203,401. These shelters are capable of accommodating up to approximately 8 million persons.

Railwaymen Affected by Wartime Changes

No railwayman who has become temporarily redundant or been transferred to another grade owing to wartime changes will suffer any reduction in wages or salary for a month. At the end of that period the position may be reviewed. This is the effect of a "standstill" agreement, which, it was stated on September 25 at Unity House, the headquarters of the N.U.R., the railway unions have secured. Some dismissals and alterations of grade owing to emergency arrangements were at first feared.

Railways on the Continent

According to reports received through neutral sources, the German State Railway urgently needs 4,000 locomotives and 100,000 coaches and wagons. A German broadcast last week said that postmen have now disappeared in Germany and that only postwomen are on duty. Women are also acting as conductors on the buses and trams in Berlin, where they took over the men's jobs on September 1. At important railway points, women are cleaning the carriages and locomotives. Almost 50 per cent. of the Berlin bus services are stated to have been withdrawn, and taxis are said to be few and far between. In Berlin only 800 motorcars will receive licences after October 1, and as several tram and bus services are suspended, and taxis are allowed only a small stock of petrol, traffic difficulties are expected to increase. In order to walk safely at night, pedestrians wear luminous buttons.

Reports which reached the Czech Legation in Paris from Prague last Friday stated that bands of Czechs were attacking German troops, blowing up bridges and destroying strategically important points. It was added that the railway linking Slovakia with Moravia was blown up at four points and two bridges were destroyed.

Bulgarian exports to Germany, which were interrupted owing to lack of railway rolling stock, are stated to have been

resumed, as Germany is now supplying Bulgaria with the necessary wagons, and foodstuffs are being exported regularly through Yugoslavia.

On the evening of September 20 Soviet troops occupied the greater part of the railway between Vilna and Grodno. Little fighting was reported along the Lithuanian frontier except at Troki station (16 miles from Vilna), which the Russians captured on September 20 after a severe battle. The prospect of having a common frontier with the U.S.S.R. appears to be welcomed by the Lithuanians, whose relations with Moscow have been friendly, especially concerning the dispute with Poland about Vilna, and hopes have now been revived that the U.S.S.R. and Germany intend to restore Vilna to Lithuania; as we pointed out last week, the Vilna territory was in dispute between Poland and Lithuania from 1920 to 1938 (see also THE RAILWAY GAZETTE of April 22, 1938, page 795). On September 23 it was reported that the approximate line of demarcation between the Soviet and German spheres of influence in Poland had been agreed. This line runs along the rivers Narev, Vistula, and San, thus cutting through Warsaw and leaving such places as Bialystok, Brest-Litovsk, Lublin, Lwow (Lemberg), and Przemyśl, in Soviet hands.

It is assumed that Germany's next step will be the appointment of a Governor-General for the German part of Poland. The Polish part of Upper Silesia has been separated from the rest of the occupied territory and has been brought within the Reich customs system. The Corridor area, where the Germans are most numerous, is being organised as a *gau* under Herr Förster.

In Warsaw, the Central railway station is understood to have been destroyed by German troops, but the Vistula bridges (including the new one which we illustrated at page 408 last week) are stated to be intact. On September 22 it was reported that the Warsaw tramways had ceased running, but that several bus routes were still working. Stories are now coming to hand about the last train to leave Warsaw for the Roumanian frontier. The decision of the Polish Government to leave Warsaw seems to have been taken hastily, and almost in panic, and the entire administrative machinery placed in a 14-coach train at Warsaw East station on September 6. It was first destined for Lublin, but as the direct railway line had been damaged at Deblin, a roundabout route was adopted. For four days the train wandered from point to point, unable to reach Lublin, and passed successively through Chelm, Kowel, and Luck to Krzemieniec, which it reached after surviving 14 bombardments from German aircraft. The train was then abandoned and the survivors eventually reached the Roumanian frontiers on foot and in road conveyances.

A description of a recent air attack on Lwow (Lemberg) by a German pilot who took part in the bombing was given on the German radio. The whole town of Lwow was enveloped in fire and smoke, he said. "This indeed was a picture more beautiful than I was ever capable of imagining. I had the good luck to see the railway station and the numerous trains there blown up and scattered in all directions."

The German radio stated on September 24 that 6 persons were killed and 10 injured when several wagons broke away from a military train on the Banjaluka-Prijedor line in Bosnia (Yugoslavia) and, running back, crashed into a passenger train.

In Paris, 14 more Metro stations are stated to have been reopened on Monday last, September 25. Petrol rationing is now being introduced in France. Summer time is to remain in force in France until the night of November 18. Some idea of the war activities of the French railways was given a few days ago in a Gaumont-British news-reel film, which showed a train of flat trucks being loaded with tanks, and gave other glimpses of the transport of French troops and war material.

A railway bridge near Arlon station, on the Brussels-Arlon main line, was blown up during the night of September 25-26, a few minutes after an express from Brussels had passed. The debris blocked the road between Arlon and Neufchateau, and a house was also destroyed. A sentry was slightly injured. Arlon is in the south-east corner of Belgium, near the Luxembourg frontier. It was afterwards announced that the cause was the explosion of mines placed there by the Belgian military authorities. The passenger service between Arlon and Stockem is being maintained by motor-coaches.

Questions in Parliament

Workmen's Tickets and Air Raids

Mr. Robert Morrison (Tottenham, N.—Lab.), on September 13, asked the Minister of Transport whether he was aware that owing to the air-raid warning on September 6, many workpeople were unable to start their journey to work until the all-clear at about 9 a.m., with the result that they had to pay full fare instead of workman's fare; and would he ask the London Passenger Transport Board whether, in similar circumstances in future, it would arrange for workpeople to get their cheap tickets as usual.

Mr. Campbell Stephen (Glasgow, Camlachie—Lab.) asked the Minister of Transport a similar question.

Captain Euan Wallace (Minister of Transport): It has been decided that, in the event of air-raid warning signals being given to the general public during the times when holders of workmen's tickets are usually conveyed and workpeople being unable in consequence to travel by the authorised workmen's train services, workmen's tickets will be available for issue for a period of 20 min. from the sounding of the all-clear signal.

Mr. R. C. Morrison: Does not the Minister agree that 20 min. is an exceedingly short space of time, particularly in view of the fact that the all-clear signal does not go simultaneously in all districts and in view of the fact that there has been some divergence of opinion among the public as to whether the all-clear signal has gone or not?

Captain Wallace: I hope the hon. gentleman will appreciate that this question is a very much more difficult one than appears on the surface. I intend to go into it further, but I will be perfectly honest and say that I think in present circumstances the concession offered by the railway companies is not an ungenerous one. With regard to air-raid warnings, the hon. member will remember that the Home Secretary recently made a statement on the subject, and I hope and believe we shall have a synchronisation of the all-clear signals all round.

Mr. Morrison: Does not the Minister appreciate that on the last occasion this happened, there were enormous crowds around the tube stations and that it would have been quite impossible to supply them all with tickets in 20 min.?

Captain Wallace: I fully appreciate that, and I hope the House will agree that I have done my best in the circumstances. (Cries of "No.") I have not closed my mind to the possibility of making some better arrangement, but the matter is a good deal more complicated than hon. members may think.

Mr. G. M. Garro-Jones (Aberdeen North—Lab.): Does not the Minister recognise that the very fixation of this period of 20 min. indicates a complete lack of consideration of the whole problem? What is to happen if there are successive air-raid warnings, which

could be brought about by no more than 20 or 30 bombing machines advancing towards the country at various times of the day? Can the Minister assure us that the whole question will be reconsidered in a more practical manner?

Captain Wallace: Certainly. I have already said that I am prepared to give further consideration to it. With regard to what the hon. member said about aeroplanes coming from time to time at different hours of the day, I would point out that this applies only to certain hours of the day. I will do my best to make a better arrangement as soon as I can possibly do so.

Mr. J. J. Davidson (Glasgow, Maryhill—Lab.): In view of the general feeling of the House, if a question is put down will the Minister be able to answer it, after further investigation, in a week's time?

Captain Wallace: I hope so, but I cannot give any definite promise.

Mr. Robert Morrison (Tottenham, N.—Lab.), on September 20, asked the Minister of Transport whether he had any further statement to make concerning the issue of workmen's tickets after the sounding of the all-clear signal.

Captain Wallace: Yes, sir. I arranged for this question to be discussed between the Railway Executive Committee and the Trades Union Congress, with the result that it has been arranged to try the following plan:—

An interval of 30 min. will be given from the sounding of the all-clear. If during this period an applicant for a workman's ticket arrives at a station and takes his place in the queue waiting access to the booking office, a workman's ticket will be issued to him. The interval of 30 min. will be reasonably applied and discretion will be given to extend it as necessary in particular cases under exceptional circumstances.

Mr. Morrison: Will that decision apply to the tubes?

Captain Wallace: Yes, it applies to the whole concern.

Control of Railway Companies

Mr. G. Ridley (Clay Cross—Lab.), on September 20, asked the Minister of Transport what financial arrangements had been agreed to between the Government and the railway companies now under the control of the Railway Executive Committee.

Captain Euan Wallace (Minister of Transport): Discussions on this subject are now proceeding.

Mr. Ridley: In the event of direct negotiations failing to reach an agreement, will there be arbitration?

Captain Wallace: I do not think that we can go into that now. I have every hope of successful discussions.

Mr. F. B. Simpson (Ashton-under-Lyne—Lab.), on September 20, asked the Minister of Transport if the Railway Clearing House was included in the control and conditions under which the railway companies had passed under Government control.

Captain Wallace: The Railway Clearing House is a body corporate, composed almost entirely of representatives of railway undertakers whose undertakings are controlled, but it does not itself carry on an undertaking of which control can be taken.

Mr. Simpson: Will the regulations governing the railway companies also apply to the Railway Clearing House?

Captain Wallace: The Railway Clearing House employees are under the same conditions as those of the railway companies and the regulations will apply to them, generally speaking. The fact remains that the Railway Clearing House is not a body that can be taken over under the Defence Regulations.

Mr. F. C. Watkins (Hackney Central—Lab.): Is not the Railway Clearing House a joint committee owned by the four main-line companies, and, therefore, falls within the terms of the transfer of the main-line companies?

Captain Wallace: The answer is as I have stated. I cannot add to it. It is a very technical point.

Irish Traffic Returns

IRELAND		Totals for 36th Week			Totals to Date		
		1939	1938	Inc. or Dec.	1939	1938	Inc. or Dec.
Belfast & C.D.	pass.	2,430	2,400	+ 30	103,349	100,894	+ 2,455
" "	goods	576	499	+ 77	17,030	16,450	+ 580
" "	total	3,006	2,899	+ 107	120,379	117,344	+ 3,035
Great Northern	pass.	10,800	11,650	— 850	442,300	435,150	+ 7,150
(543 mls.)	goods	13,350	11,000	+ 2,350	390,250	341,000	+ 49,250
" "	total	24,150	22,650	+ 1,500	832,550	776,150	+ 56,400
Great Southern	pass.	38,123	38,674	— 551	1,447,009	1,442,887	+ 4,122
(2,076 mls.)	goods	56,528	47,634	+ 8,894	1,563,298	1,490,790	+ 72,508
" "	total	94,651	86,308	+ 8,343	3,010,307	2,933,677	+ 76,630
L.M.S. Northern	pass.	3,870	4,660	— 790	180,640	179,120	+ 1,520
*Counties	goods	3,930	2,220	+ 1,710	106,420	97,440	+ 8,980
(271 mls.)	total	7,800	6,880	+ 920	287,060	276,560	+ 10,500

* 37th week

Notes and News

"A.B.C. Railway Guide."—The October issue of the *A.B.C. Railway Guide* will not be published until about October 7, owing to the difficulty in obtaining reliable information regarding the new train services. The price will remain at 2s. Air service timetables have been withdrawn.

C.A.V.-Bosch Limited.—Although this company has been entirely British for several years, it has been decided to delete the name of Bosch from the title, in order to remove any impression of German influence. Henceforth the company will be known as C.A.V. Limited.

Railway Officers' and Servants' Association.—Owing to the outbreak of war, the 78th anniversary dinner of the United Kingdom Railway Officers' and Servants' Association, which was to have been held on October 25 under the presidency of Sir Ronald Matthews, in aid of the funds, has been cancelled.

British-American Engineering Congress, New York.—Among the functions abandoned on account of the war is the joint meeting which had been arranged to take place in New York from September 4-8 of the Institutions of Civil and Mechanical Engineers and the American Societies of Civil and Mechanical Engineers and the Engineering Institute of Canada. All functions arranged in connection with the congress were cancelled.

British Industries Fair.—The Department of Overseas Trade announces that the British Industries Fair, which was to have been held in London and Birmingham in February, 1940, has been cancelled. The Department of Overseas Trade will communicate with individual exhibitors in the London section, and the Birmingham Chamber of Commerce with individual exhibitors in the Birmingham section.

Clayton Dewandre Capital.—The directors of Clayton Dewandre Co. Ltd., which was formed in 1928 to acquire the motor engineering section of Clayton Wagons Limited, propose to increase the capital from £260,000 to £500,000. It is also proposed to capitalise £13,000, part of the £20,000 undistributed profits, and to distribute it to the deferred stockholders by means of a capital bonus of 20 per cent. The existing £65,000 of deferred stock, it is proposed, shall be converted into ordinary stock.

Callender's Carrying On.—Callender's Cable & Construction Co. Ltd. is making only those changes in its vast organisation which are necessary to meet the emergency conditions. The cable, cable accessories, and engineering equipment factories are being kept in full production to a degree limited only by the recent official regulations. The head offices remain at Hamilton House, Victoria Embankment, E.C.4, where ample air raid shelter facilities have been provided for the management and staff. Personnel in most departments there has been reduced by the calls of

the Territorials and auxiliary services, but not sufficiently to disturb normal working and attention to customers' requirements. Catalogues and other publications are being used in the usual manner, and every endeavour is being made to continue the whole of the services for so long associated with the name of Callender's.

Irish Battery Trains.—Two further Drumm battery trains have been introduced by the Great Southern Railways on the Harcourt Street (Dublin)-Bray line. All the normal passenger traffic on this line is now operated by Drumm battery trains. Each two-car train is equipped with two 200 h.p. motors, and has steel-sheathed sides and roof. First and third class accommodation is provided.

Baedeckers Limited.—Notice was given in *The London Gazette* of September 22 that a general meeting of the members of Baedeckers Limited (in voluntary liquidation) will be held at the offices of Messrs. Sharp Parsons & Co., chartered accountants, 120, Colmore Row, Birmingham, on Monday, October 23, 1939, at 10.5 a.m., for the purpose of having an account laid before them showing the manner in which the winding-up is being conducted and the property of the company disposed of. This notice is purely formal and all creditors have been or will be paid in full. The Liquidator is Mr. Edward Bosley.

Trading with the Enemy.—The Board of Trade made an Order last week directing that the persons specified therein shall, for the purpose of the Trading with the Enemy Act, be deemed to be enemies. The Order specifies 278 persons, including firms, carrying on business in various foreign countries. The Order came into force on September 18. Traders, shipowners, and others are accordingly warned that from that date it is unlawful to transact business or to have other dealings with any person specified in the Order without official permission (which will not be granted save in very exceptional circumstances). Offenders will be liable to heavy penalties. Applications for licences to transact business otherwise prohibited should be addressed to the Trading with the Enemy Branch, Western Galleries, Imperial Institute, South Kensington, S.W.7. The Order is called the Trading with the Enemy (Specified Persons) Order, 1939. Several large German firms with foreign branches appear in the list, including the A.E.G., which operates in Denmark, Bulgaria, Finland, Latvia, Sweden, Switzerland, Norway, Argentina, Brazil, and Iran. In all, there are 109 enemy traders in South America; 18 in Greece; 15 in Japan; 14 in Norway; 11 in Finland; 10 each in Belgium, Bulgaria, Denmark, Holland, Iran, Portugal, and Switzerland; 8 in Sweden; and smaller numbers in other countries. Reference is made on the opposite page to the fact that the Osram companies in the list of enemy concerns are not associated with the General Electric Co. Ltd.

British and Irish Railway Stocks and Shares

Stocks	Highest 1938	Lowest 1938	Prices	
			Sept. 26, 1939	Rise Fall
G.W.R.				
Cons. Ord. ...	65 ¹ / ₄	25 ³ / ₄	25 ¹ / ₂	+ ¹ / ₂
5% Con. Prefce....	118 ³ / ₄	74	80	—
5% Red.Pref.(1950)	111 ⁵ / ₄	90	92 ¹ / ₂	—
4% Deb. ...	111	97 ¹ / ₂	93 ¹ / ₂	—
4 ¹ / ₂ Deb....	112 ⁵ / ₁₆	100 ¹ / ₂	96 ¹ / ₂	—
4 ¹ / ₂ Deb....	118 ¹ / ₂	104	102 ¹ / ₂	—
5% Deb.	131 ¹ / ₂	119	112 ¹ / ₂	—
2 ¹ / ₂ Deb....	69 ³ / ₄	60	56 ¹ / ₂	—
5% Rt. Charge ...	129	114	106	—
5% Cons. Guar. ...	128 ¹ / ₂	103	99 ¹ / ₂	—
L.M.S.R.				
Ord.	30 ¹ / ₂	11	12	+1
4% Prefce. (1923)	70 ¹ / ₄	23	36	—
4% Prefce.	82 ¹ / ₄	43 ³ / ₄	50	+ ¹ / ₂
5% Red.Pref.(1955)	103 ¹ / ₂	66	76	—
4% Deb.	105 ¹⁵ / ₁₆	85	87 ¹ / ₂	—
5% Red.Deb.(1952)	114 ¹ / ₄	105	104	—
4% Guar.	102 ³ / ₄	77 ¹ / ₂	78	—
L.N.E.R.				
5% Pref. Ord. ...	89 ¹⁶ / ₁₆	31 ² / ₂	31 ² / ₂	- ¹ / ₄
Def. Ord.	47 ¹⁶ / ₁₆	21 ¹⁶ / ₁₆	21 ⁴ / ₂	- ⁵ / ₈
4% First Prefce.	68 ¹ / ₄	21	29 ¹ / ₂	—
4% Second Prefce.	27 ¹ / ₄	8	9 ¹ / ₂	—
5% Red.Pref.(1955)	97	40 ¹ / ₄	45	—
4% First Guar. ...	97 ¹ / ₂	66 ¹ / ₄	63 ¹ / ₂	—
4% Second Guar.	91 ¹ / ₄	52	55 ¹ / ₂	—
3% Deb.	79 ¹ / ₄	60	59 ¹ / ₂	—
4% Deb.	104 ¹ / ₈	77	79	—
5% Red.Deb.(1947)	110 ⁸ / ₈	97	100 ¹ / ₂ *	—
4 ¹ / ₂ Sinking Fund Red. Deb.	108 ¹¹ / ₁₆	101	98	—
SOUTHERN				
Pref. Ord.	87	47 ⁷ / ₈	52	+3
Def. Ord.	21 ³ / ₄	9 ¹ / ₄	9 ¹ / ₂	+ ¹ / ₂
5% Pref.	115	83	80	—
5% Red.Pref.(1964)	115 ¹ / ₂	98	97 ¹ / ₂	—
5% Guar. Prefce.	128 ¹ / ₂	106	105	—
5% Red.Guar.Pref. (1957)	116	108 ¹ / ₂	105	—
4% Deb.	109 ¹ / ₄	95	93 ¹ / ₂	—
5% Deb.	129	117	112 ¹ / ₂	—
4% Red. Deb.	107	101 ¹ / ₂	101 ¹ / ₂	—
1962-67				
BELFAST & C.D.				
Ord.	4	3 ¹ / ₂	4	—
FORTH BRIDGE				
4% Deb.	102	99 ¹ / ₈	83 ¹ / ₂	—
4% Guar.	103 ¹ / ₄	94 ¹ / ₂	82 ¹ / ₂	—
G. NORTHERN (IRELAND)				
Ord.	5 ¹ / ₂	2 ¹ / ₂	6	- ¹ / ₂
G. SOUTHERN (IRELAND)				
Ord.	25 ¹ / ₂	8 ¹ / ₂	9 ¹ / ₂	—
Prefce.	35	13	20	+3
Guar.	70 ¹ / ₄	30 ¹⁵ / ₃₂	36	+1
Deb.	83	56	53	-1
L.P.T.B.				
4 ¹ / ₂ % "A" ...	119 ⁵ / ₈	107 ¹ / ₂	103	—
5% "A" ...	130	117	107	—
4 ¹ / ₂ % "T.F.A." ...	108	98	101	—
5% "B" ...	122 ¹⁵ / ₁₆	105	102	—
"C" ...	84	68	65	—
MERSEY				
Ord.	24 ¹ / ₄	16 ¹ / ₂	22	—
4% Perp. Deb.	102 ⁷ / ₈	94 ³ / ₄	90	—
3% Perp. Deb.	77	69	65 ¹ / ₂	—
3% Perp. Prefce.	66 ¹ / ₂	57	52 ¹ / ₂	—

* ex dividend

OFFICIAL NOTICES

Egyptian Government.

APPOINTMENT OF A CHIEF BOILER SHOP FOREMAN.

APPLICATIONS are invited for appointment of a Chief Boiler Shop Foreman in the Mechanical Department of the Egyptian State Railway Administration.

Applicants must be of British Nationality (between 30-40 years of age), and possess the following qualifications—

Must have served a regular boilermaker apprenticeship in the Locomotive Workshops of a recognised Railway Company or a firm building and supplying locomotive boilers, with a subsequent experience as a journeyman boilermaker.

Must have had experience on the examination and maintenance repairs to locomotive boilers with a recognised Railway Company and be qualified to examine and report on the conditions of locomotive boilers, assess maintenance repairs required to supervise the carrying out of such repairs and to test and pass locomotive boilers for service after such repairs.

Must have had experience in the control of labour and held a post in a supervising capacity.

Besides experience in boiler shop maintenance repair work experience in the inspection and

maintenance repairs of locomotive boilers in the Running Department of a recognised Railway is desirable.

The salary offered is £E500 per annum, to be increased to £E548 after two years' service (£E1 = £10s. 6d. approx.). Subject to Egyptian Income Tax. Appointment will be on contract for five years commencing on the day of reporting for duty in Cairo.

The appointment is subject to medical examination in London and approval of the authorities in Egypt.

The selected candidate shall be entitled to receive on arrival, the cost of his journey from England to Egypt and similarly the cost of his return journey.

Third-class fares and reasonable out-of-pocket expenses will be paid to applicants who are requested to attend for interview and/or medical examination in London.

Application and specimen contract forms may be obtained from

The Chief Inspecting Engineer,
Egyptian Government,
41, Tothill Street,
London, S.W.1.

to whom they should be returned, with full particulars as to education, qualifications, previous experience, personal reference and COPIES (not originals) of certificates or testimonials.

Envelopes to be inscribed Chief Boiler Shop Foreman.

The Institute of Transport Examinations, 1940

NOTICE IS HEREBY GIVEN that the Graduateship and Associate Membership Examinations will be held on Monday, Tuesday and Wednesday, May 6th, 7th and 8th, 1940.

The latest date for the deposit of forms of entry is March 31st, 1940 (January 1st if any exemptions are claimed). Full particulars, previous question papers (price 1s. per set, post free) and copies of a revised and enlarged edition of the booklet "The Institute of Transport Examinations: notes for the guidance of candidates unable to attend preparatory courses" (price 2s. 6d., post free) may be obtained from the undersigned.

By Order of the Council,
A. WINTER GRAY,
Secretary.

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is noon on Thursday. All advertisements should be addressed to—The Railway Gazette, 33, Tothill Street, Westminster, London, S.W.1.

The Netherlands Railway Centenary Exhibition

September 20 marked the centenary of opening of the first line in Holland, that from Amsterdam to Haarlem, and the Netherlands Railways had intended to celebrate the event in imposing style, but the international situation and the pressure on the railways arising from mobilisation and extra military traffic necessitated most of the proposed events being cancelled. The Amsterdam railway exhibition was, however, duly opened on September 8, and provides a picture of 100 years of growth of Holland's chief means of transport.

In the exhibition building—a hall covering $\frac{3}{4}$ acre floor area—are found, near the entrance, examples of pre-railway means of conveyance, and one then passes on to a review of the development of railways in the last 100 years. Considerable space is devoted to signalling, and no effort is spared to impress the public with the importance of this branch of railway operation. The rolling stock section is also very attractive, containing both a locomotive and a diesel-electric train cab, which form a great feature of the exhibits. The social services relating to the railway staff of 31,000 employees and the importance of the railways to the Dutch industries comprise the concluding items in the hall.

The Outdoor Exhibits

In the exhibition grounds is a platform alongside which are drawn up a three-unit diesel-electric train, a diesel vehicle with mechanical drive, and a "D" (corridor) train, the last composed of the largest type of locomotive in the Netherlands (Class "3900"), a Pullman car, a Wagon-Lits sleeping car, a Mitropa restaurant car, and the newest third class Netherlands coach, Class "7300." There is also a signal box, into which visitors may go and operate signals for themselves.

The chief attraction of the exhibition

is the reproduction—from old plates and drawings—of the first train that ran on the original 6-ft. 4-in. gauge, with engine, built at Zwolle by the Netherlands Railways. This is a 2-2-2 inside cylinder locomotive *De Arend* (*Eagle*), with 4-wheel tender, and is attached to a coach type of vehicle, an open-sided carriage with cross seats, and an open truck. This historic train is illustrated on page 438.

The Dutch Postal Department has issued two commemorative stamps, one of 5 cents (green) showing the *Arend*



locomotive, the other of 12½ cents featuring the latest streamlined electric train. Private firms have placed on the market spoons and decorative wall plates in china with scenes from railway history depicted thereon. A series of comic prints dealing with railways has also appeared. A large official commemorative volume is in the press.

The exhibition can be reached by train from the Central station (routes 5 and 11), the Weesperpoort station (routes 6, 7, 10, and 11), the Muiderpoort station (routes 6, 10, and 11), and Haarlemmermeer station (route 6).

As of old, September is a festive month in Amsterdam and this year there will be many special attractions in the city; the Queen of the Netherlands will pay it a visit.

Among the art-exhibitions which coincide with the Amsterdam Septem-

ber Festival, are the Biblical Art Exhibition in the Rijksmuseum, "Around Rodin" in the Municipal Museum, "Tibetan Art," in the Colonial Institute, and "100 Years' Dutch Art" in Arti. An attractive part of the celebrations will naturally be enacted on the water, especially in round-trips through the stately canals. Apart from open-air concerts and a music festival, a water-ballet, the organisation of a "day of defence," a roller-skating race, processions, battle of flowers, a motor car parade, and a dahlia-show, are also on the programme.

Contracts and Tenders

The Forges de Courcelles Centre, of Belgium, has received an order for screw couplings from the Egyptian State Railways.

Thos. Firth & John Brown Limited, of Sheffield, has received orders from the Assam-Bengal Railway for the supply of axles and tyres for locomotives, carriages, and wagons.

Leyland Motors Limited has received orders from the Lancashire United Transport & Power Co. Ltd. for 10 diesel-engined double-deck buses, and 20 diesel-engined single-deck buses; and from the Potteries Motor Traction Co. Ltd. for 5 diesel-engined single-deck buses.

"OSRAM."—The General Electric Co. Ltd. wishes to state that the Osram companies referred to in the recently-issued list of enemy concerns are subsidiaries of the Osram G.m.b.H. of Berlin and have no connection of any kind whatsoever, financial or otherwise, with the G.E.C. The well-known Osram lamps and valves are made in England entirely out of British and Empire materials. The Osram trade mark for Great Britain and the British Empire is owned exclusively by the G.E.C., which is itself an entirely British company under British control.

Railway Share Market

Pending the Budget statement business on the Stock Exchange declined to very small proportions, and although firmer market conditions were inclined to develop later in the week, sentiment was affected by uncertainty concerning the position of Russia in the international situation. With the removal of doubts as to the Emergency Budget, it is being suggested that the stock and share markets may gradually show more activity, particularly as a point is being reached where the outlook for gilt-edged stocks is becoming more clearly defined.

Home railway securities were the firmest section of the Stock Exchange this week, in view of the belief that the railway companies and stockholders will be compensated on an equitable basis during the period of Government control. Ordinary stocks have attracted buyers on the assumption that they are probably somewhat moderately priced, while various of the preference and guaranteed stocks came in for some attention in view of the apparently generous yields. In fact, both L.N.E.R. 4 per cent. second guaranteed and L.M.S.R. 4 per cent. first preference stocks showed slight rises above the unofficial minimum prices fixed by jobbers, the first named

being 56, two points above the minimum, and the last-named 51, or 1½ points over the minimum price. There was, however, very little business, in view of surrounding market conditions and the firmer tendency arose mainly from the absence of selling orders. It is apparent that, as in other sections of the market, investors have decided that the prudent course is to be prepared, if necessary, to take more than a very short view. Southern preferred was better, and following last week's decline to 49 rallied to 53, while the deferred stock at 10 was a point higher on balance. L.M.S.R. ordinary recovered from 10½ to 11½, and Great Western ordinary participated in the better trend with a rally on the week from 21½ to 25½. L.N.E.R. preferred was fractionally better at 3½, but the deferred was 2½, compared with 2½ a week ago.

Holders of most home railway junior stocks are continuing to take a hopeful view of the outlook, and as there is little selling, the market is still none too well supplied with stock. Consequently, in the event of demand developing, prices might be marked up sharply. Moreover, it is expected that when the outlook for gilt-edged securities is more clearly defined, and the Government's

terms for reimbursing the companies are announced, dealers will no longer fix minimum prices for the other classes of home railway securities, and various of the higher-yielding preference and guaranteed stocks might then show gains of several points. It must, however, be realised that from time to time market sentiment may be entirely governed by the nature of war news and developments in international affairs.

Foreign railway securities were mostly firm, and those of the Argentine companies were again inclined to make improved prices on the better outlook in the Argentine, but little fresh demand was reported. B.A. Gt. Southern lost part of an earlier gain, but Central Argentine and B.A. Western were firm. On the other hand, a number of debentures and preference stocks were slightly reactionary following last week's improvement. B.A. & Pacific 4½ per cent. debentures went back from 34 to 32½, and B.A. Western 4 per cent. debentures were two points lower at 43, while Argentine Great Western 5 per cent. debentures moved down slightly to 33½. Canadian Pacific were firm at 6, as was the preference stock at 26, the assumption being that the railway will benefit from increased transport of food and raw materials.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

Railways	Miles open 1938-39	Week Ending	Traffic for Week		No. of Weeks	Aggregate Traffic to Date			Shares Stock	Prices						
			Total this year	Inc. or Dec. compared with 1938		Totals		Increase or Decrease		Highest 1938	Lowest 1938	Sept. 26, 1939	Yield (See Note)			
						This Year	Last Year									
South & Central America	Antofagasta (Chili) & Bolivia	834	17.9.39	£ 16,210	+	£ 4,360	37	493,160	564,060	—	£ 73,900	Ord. Stk.	14	71½	9	Nil
	Argentine North Eastern ..	753	9.9.39	ps. 177,500	—	ps. 8,100	11	ps. 1,837,100	ps1,901,400	—	ps. 64,300	6 p.c. Deb.	612	2	31½	Nil
	Bolivar ..	174	Aug. 1939	4,900	+	1,000	34	34,050	30,150	+	3,900	Bonds.	10	4	51½	91½
	Brazil ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Buenos Ayres & Pacific ..	2,801	16.9.39	ps1,203,000	+	ps58,000	12	ps13,675,000	ps13,169,000	+	ps506,000	Ord. Stk.	612	31½	41½	Nil
	Buenos Ayres Central ..	190	26.8.39	\$136,100	+	\$12,600	9	\$1,048,400	\$1,002,400	+	\$46,000	Mt. Deb.	151½	8	12	Nil
	Buenos Ayres Gt. Southern ..	5,082	16.9.39	ps1,774,000	—	ps108,000	12	ps20,960,000	ps22,484,000	—	ps1,524,000	Ord. Stk.	175½	32	91½	Nil
	Buenos Ayres Western ..	1,930	16.9.39	ps. 740,000	+	ps106,000	12	ps. 7,486,000	ps8,832,000	+	ps624,000	"	123½	5	7	Nil
	Central Argentine ..	3,700	16.9.39	ps1,889,250	+	ps14,500	12	ps22,877,100	ps19,007,000	+	ps3,870,100	"	131½	53½	81½	Nil
	Do ..	—	—	—	—	—	—	—	—	—	—	—	6	21½	21½	Nil
	Cent. Uruguay of M. Video	972	16.9.39	16,381	+	798	12	181,152	186,548	—	5,396	Ord. Stk.	3	11½	21½	Nil
	Costa Rica ..	188	June 1939	25,240	—	6,129	52	270,756	314,399	—	43,643	Stk.	28	22	22½	87½
	Dorada ..	70	Aug. 1939	14,200	—	3,400	34	109,300	132,200	—	22,900	1 Mt. Db.	1051½	104	102½	57½
	Entre Rios ..	810	9.9.39	ps. 281,800	+	ps. 2,300	11	ps. 2,814,400	ps2,647,200	+	ps1,67,000	Ord. Stk.	71½	31½	5	Nil
	Great Western of Brazil ..	1,092	16.9.39	7,800	+	1,300	37	292,200	299,400	+	52,800	Ord. Sh.	3/-	1/-	5½	Nil
	International of C. Amer. ..	794	July 1939	\$463,615	+	\$19,287	30	\$3,697,627	\$3,454,817	+	\$242,810	"	—	—	—	—
	Interoceanic of Mexico ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	La Guaira & Caracas ..	22½	Aug. 1939	7,435	+	2,345	34	49,355	40,670	+	8,685	1st Pref.	6d.	1½	1½	Nil
	Leopoldina ..	1,918	25.8.39	23,083	+	3,463	34	672,620	666,493	+	6,127	Ord. Stk.	4	1	1½	Nil
	Mexican ..	83	21.8.39	\$283,000	+	\$35,500	8	\$2,003,100	\$1,988,800	+	\$14,300	"	14	1½	1½	Nil
	Midland of Uruguay ..	19	July 1939	9,153	—	74	4	9,153	9,227	—	74	"	78	1½	1½	Nil
	Nitrate ..	386	15.9.39	3,899	—	122	35	84,001	105,183	—	21,182	Ord. Sh.	52½	10½	19½	71½
	Paraguay Central ..	274	Aug. 1939	\$3,006,000	+	\$248,000	12	\$38,483,000	\$36,322,000	+	\$2,161,000	Pr. Li. Stk.	60	55½	40½	143½
	Peruvian Corporation ..	1,059	Aug. 1939	61,433	—	12,254	9	125,839	147,742	—	21,903	Pref.	55½	18½	11½	Nil
	Salvador ..	100	26.8.39	\$10,400	+	444	9	485,844	\$104,349	—	\$18,485	Pr. Li. Db.	23	20	19½	Nil
	San Paulo ..	153½	17.9.39	31,633	—	3,487	37	1,152,658	1,226,783	—	74,125	Ord. Stk.	64	28	25½	71½
	Taltal ..	160	July 1939	1,555	—	1,955	5	1,555	3,510	—	1,955	Ord. Sh.	1516	1	9½	87½
	United of Havana ..	1,353	16.9.39	21,703	+	2,973	12	194,726	193,800	+	926	Ord. Stk.	358	1½	11½	Nil
	Uruguay Northern ..	73	July 1939	800	—	108	4	800	908	—	108	Deb. Stk.	2	1	2	Nil
Canada	Canadian National ..	23,698	14.9.39	1,061,670	+	222,915	36	25,814,899	24,074,175	+	1,740,724	—	—	—	—	—
	Canadian Northern ..	—	—	—	—	—	—	—	—	—	4 p.c.	Perp. Dbs.	72	60	62½	65½
	Grand Trunk ..	—	—	—	—	—	—	—	—	—	104	90	89½	5	—	
India	Canadian Pacific ..	17,171	14.9.39	964,600	+	265,200	36	18,990,000	18,317,400	+	672,600	Ord. Stk.	8716	41½	6	Nil
	Assam Bengal ..	1,329	31.8.39	48,997	+	4,281	22	593,329	574,725	+	18,604	Ord. Stk.	811½	70	61½	47½
	Barsi Light ..	202	20.8.39	2,340	—	90	20	48,292	60,240	—	11,948	Ord. Sh.	601½	544½	45½	87½
	Bengal & North Western ..	2,112	31.8.39	62,421	—	566	22	1,076,218	1,180,490	—	104,272	Ord. Stk.	311	278	235	71½
	Bengal Doon & Extension ..	161	31.8.39	6,031	—	921	22	51,466	57,558	—	6,083	"	89	83	85½	71½
	Bengal-Nagpur ..	3,267	31.8.39	197,100	+	20,441	22	3,181,733	2,872,613	—	309,120	"	951½	90	84½	47½
	Bombay, Baroda & C. India ..	2,986	20.9.39	248,175	+	16,050	24	3,951,275	4,020,225	—	88,950	"	1127½	95	92½	61½
	Madras & Southern Mahratta ..	2,967	20.8.39	129,225	—	5,895	20	2,321,802	2,227,450	+	94,352	"	108	97	92½	83½
Various	Rohilkund & Kumaon ..	546	31.8.39	11,773	—	1,017	22	219,616	241,777	—	22,161	"	308	285	245	75½
	South Indian ..	2,531½	31.8.39	127,755	+	6,073	22	1,750,788	1,730,903	+	19,882	"	104	101	89½	55½
	Beira ..	204	June 1939	83,026	—	—	40	719,357	—	—	—	—	—	—	—	—
	Egyptian Delta ..	623	10.8.39	5,875	+	486	19	67,548	65,905	+	1,643	Prf. Sh.	78	5½	1½	Nil
	Kenya & Uganda ..	1,625	May 1939	206,557	—	11,295	21	1,220,870	1,309,332	—	88,462	B. Deb.	49	41	43	87½
	Manila ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Midland of W. Australia ..	277	July 1939	11,258	—	1,985	4	11,258	13,243	—	1,985	Inc. Deb.	933½	89	89	41½
	Nigerian ..	1,900	5.8.39	25,443	+	1,087	19	508,056	566,452	—	60,396	"	—	—	—	—
Rhodesia ..	2,442½	June 1939	365,928	—	—	40	3,246,158	—	—	—	—	—	—	—	—	
South Africa ..	13,284	26.8.39	646,242	+	15,698	22	13,702,964	12,937,980	+	764,984	"	—	—	—	—	
Victoria ..	4,774	June 1939	693,446	—	31,680	52	9,360,329	9,809,155	—	448,829	"	—	—	—	—	

NOTE. Yields are based on the approximate current prices and are within a fraction of 1%. Argentine traffic is now given in pesos. † Receipts are calculated @ 1s. 6d. to the rupee